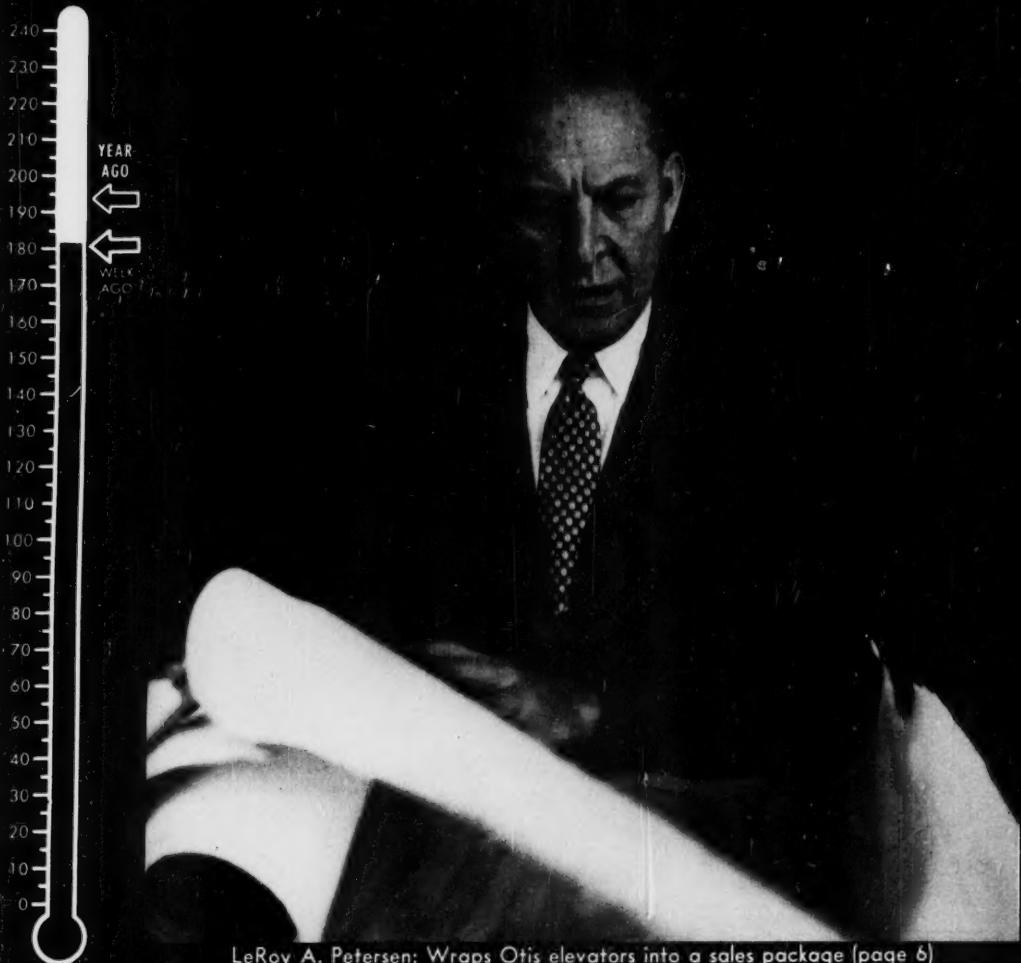


BUSINESS WEEK

A MCGRAW-HILL PUBLICATION

AUG. 13, 1949



LeRoy A. Petersen: Wraps Otis elevators into a sales package (page 6)

BUSINESS
WEEK
INDEX



The newsboy's bike is capital

THE NEWSBOY starts a route, on foot. He can deliver 35 papers, he makes \$3.15 a week, on bad days some customers have to wait.

He spends some money for movies but saves some to buy a bicycle. Now he can deliver 70 papers, make \$6.30 a week, and his customers get their papers more promptly.

Now he can save more (profit) but he is wise and so puts some away in a special fund to replace the bike when it wears out. That's depreciation reserve.

If he's *very* ambitious he buys two bikes, takes on another route and hires another boy (wages) to cover it. Now he needs twice as much depreciation reserve, or when the second bike breaks down he will have no money to replace it, and so the second boy would be out of a job or

would have to deliver on foot at half the wages.

That's all there is to business.

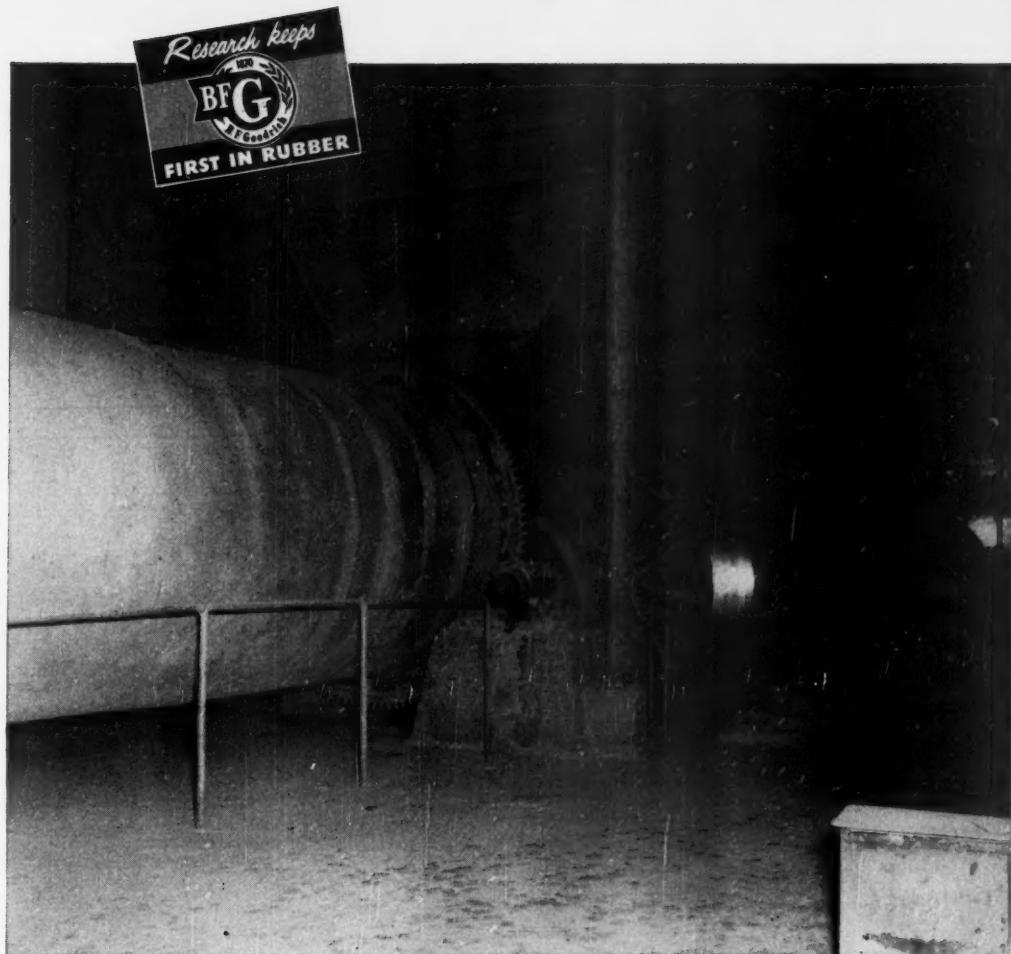
Is the first newsboy wicked because he makes a profit? Should he be prevented from accumulating bicycle replacement money? Is he oppressing the second boy by supplying a bicycle so he, too, can deliver more and so earn more?

No? Yet many people in high places say older business men are, when they do identical things. Think of the newsboy's bike when you listen to your next speech.



WARNER
&
SWASEY
Machine Tools
Cleveland

YOU CAN MACHINE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY TURRET LATHES. AUTOMATICS AND TAPPING MACHINES



Big steel gizzard makes plaster

A typical example of B. F. Goodrich product improvement

JUST AS PEBBLES in a chicken's gizzard pulverize food, steel balls in that big tube grind gypsum into powder for plaster. That is, the balls grind the gypsum when the mill revolves. Making it do that was a major job.

Tube and balls weigh almost 100 tons. The mill is driven by V belts. Trying to get that weight to turn from a dead stop, sometimes snapped these belts like so many pieces of string. Even after starting, the job of keeping this horizontal merry-go-round rolling wore out belts before their time. An entirely new kind of belt was needed.

B. F. Goodrich had developed a different kind of V belt needed for just such brute strength jobs. It has a new kind of cord reinforcement called a "grommet," that stands hard pulls, shocks, jerks far better than ordinary twisted cords, so the belt is much stronger, more flexible, stands sudden starts and stops.

Someone suggested replacing the hard-to-maintain drives with the new B. F. Goodrich grommet belts. A matched set, installed 5 years ago, is still in use, and good for many more years.

B. F. Goodrich experience in rubber engineering has benefited thousands of B. F. Goodrich customers. Often BFG already has the answer when a new problem comes up in any field, so no time or money is lost. Research never stops at B. F. Goodrich. To get its latest advantages in any products you use, all you have to do is see your B. F. Goodrich distributor. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

B.F. Goodrich
RUBBER FOR INDUSTRY

FLASH MARKS THE SPOT

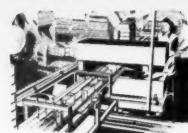


A-C Offers Industrial Buyers One Source for Nearly Every Basic Equipment Need!



Oil companies order Allis-Chalmers explosion-proof motors, turbines, unit-substations, boiler feed pumps, water-conditioning service, and self-priming pumps—typifying diversity of A-C equipment for petroleum.

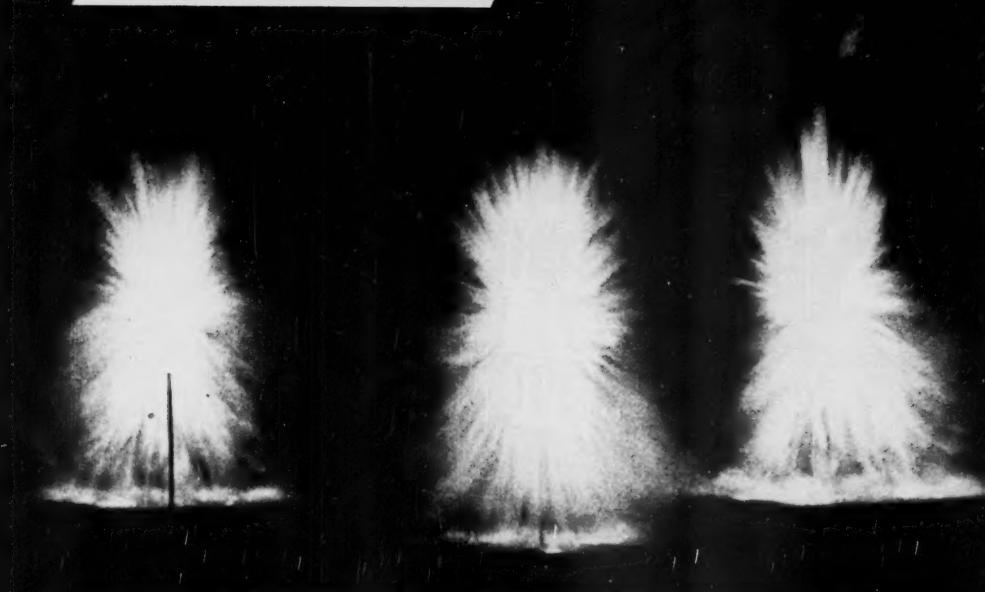
Airline base on the West Coast—world's finest—relies on Allis-Chalmers motors, vacuum pumps, to simulate high altitude flight conditions in test department.



Food company in the East takes every precaution to protect purity of packaged breakfast cereal . . . uses Allis-Chalmers electronic metal detector as safeguard against metallic particles.

Throughout the nation—in steel mills, mines, paper mills, public works—Allis-Chalmers equipment is contributing to America's high standards of living.

—Drill Here!



THESE aren't fireworks at a county fair. They are charges of dynamite exploded to send shock waves down into the earth. By measuring the reflected waves, oil geologists can determine the likelihood of oil below.

It's U. S. A.'s newest aid in the never-ending search to increase the nation's oil reserves.

Today, an average American uses 28 times more oil than any other citizen in the world.

Oil powers 41,000,000 cars, trucks and tractors, countless ships, planes and trains . . . heats 4,000,000 homes, stores and other build-

ings . . . provides chemicals and solvents for thousands of products!

Prominent in this whole picture—from oil well, to refinery, to you—is Allis-Chalmers . . . with pumps, motors, and other basic equipment for petroleum production, refining, transportation and marketing.

In fact, Allis-Chalmers has a hand in the processing of nearly every product of your good living today!

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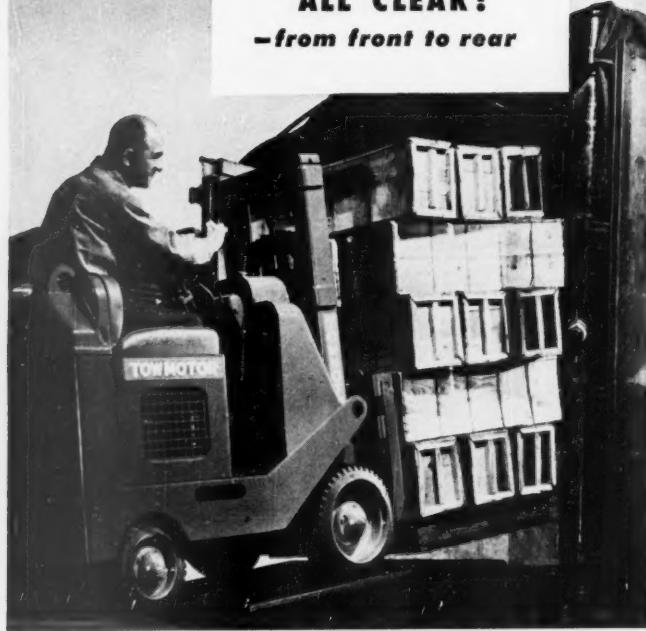
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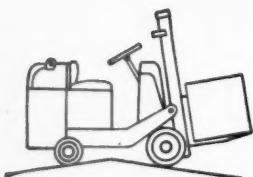


BUSINESS WEEK

ALL CLEAR!
-from front to rear



**every handling job is easier with
TOWMOTOR MH!**



NO HANG-UP ON "HUMPS"

—another Towmotor efficiency feature

Towmotor provides plenty of under-clearance to avoid "hanging up" on the steepest ramps or roughest, bumpiest surfaces. Move loads where you please —with safety!

With ample under-clearance ranging from 5" to 10½", Towmotor's complete line of fork lift trucks assures "all clear" performance on difficult handling jobs. This safe under-clearance at center prevents any danger of scraping on ramps, high door sills, railroad tracks or other obstacles. That's just another reason why sturdy, agile Towmotors get the job done in less time, at less cost. Compare Towmotor with any other lift truck and you will see why Towmotor's practical features make every Mass Handling job easier, faster, safer. 10 models plus standard and specially designed accessories handle loads from 1500 to 15,000 lbs.—a Towmotor for every job. Write for a copy of the "Operators Guide." Towmotor Corporation, Division 2, 1226 E. 152nd St., Cleveland 10, Ohio. Representatives in all Principal Cities in the U. S. and Canada.

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THE ONE-MAN-GANG

**FORK LIFT TRUCKS
and TRACTORS**

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BUSINESS WEEK • Aug. 13, 1949

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HAVE THE HIGHEST "I.Q." IN
VERTICAL TRANSPORTATION HISTORY

Selectomatic's superior "intelligence" knows how to solve any elevator traffic-demand problem that may occur in your building.

This unique "electrical intelligence" is put into action by only three button settings. One for "Down Peak" which occurs when passenger traffic is principally outgoing . . . One for "Up Peak" which exists when traffic is predominantly incoming . . . One for "Off Peak" to handle routine, up and down traffic—as well as temporary surges from morning coffee, lunch and afternoon "coke" calls. Set just one button, for any of these major traffic problems, and Selectomatic's Electric Brain takes over.

It reacts instantly and automatically to the traffic demand. It sends the right cars to the right floors at the right time to give your building the most efficient service possible—on every floor every minute of the day. Selectomatic, an exclusive Westinghouse development, is the greatest improvement in elevators since the beginning of vertical transportation. Send for Book B-3597 and get its complete, fascinating story. Westinghouse Electric Corporation,

Elevator Division, Dept. A, Jersey City, N. J.



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YOU'LL SELECT

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TO be best evaluated, fire protection must be considered in the light of known results . . . results that when honestly measured, are evidenced in the qualities of *Assured Service* . . . *Approved Safety* . . . and *Accepted Savings*.

From a *Service* point of view, *Automatic Sprinklers* stand on their record of past performance . . . safeguarding commercial and industrial enterprise from fire for over half a century . . . extinguishing small fires at their inception before major conflagrations can develop.

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The fact that the cost of *Automatic Sprinkler* protection at Buhl Sons Company, Detroit, Michigan, will be paid for by means of reduced insurance rates in about 15 years (nearly 7% per annum), substantiates their acceptance as *Savings*.

You will find it wise to plan adequate fire protection for your business property now, and in that planning, give careful consideration to those qualities of *Service* . . . *Safety* . . . and *Savings*. *Automatic Sprinklers* continue to offer all three. They're an important investment today . . . perhaps welcomed protection tomorrow.

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THE COVER

Most people naturally assume that when a building owner buys an elevator, he gets the doors with it. In the past, that assumption was wrong. Generally the nation's 150-odd elevator makers delivered their elevators without hoistway doors. That often meant that it was up to the building owner to deal with a second firm to get the doors for his shafts. (Sometimes the elevator maker would take care of getting doors from a subcontractor.)

• **Otis Package**—This week Otis Elevator Co. became the first in the industry to start making shaft doors for its own elevators. Thus, all future Otis elevators will be sold as complete Otis packages.

Otis is making its doors in a 212,600-sq.-ft. plant in Harrison, N. J. During the war it used the plant—which adjoins the company's elevator works—to manufacture thousands of crank cases for airplane engines. Output will hit 120 doors this month, will climb to 1,200 a month by early 1950.

• **The Ideas**—The complete-package idea is Otis' second major innovation since LeRoy A. Petersen became president in 1945. The first was a new traffic-control system for elevators called "Autotronic Elevating" (BW-Nov. 20 '48, p50). This is an electronic "supervisor" which keeps traffic flow even during both peak and normal periods of travel.

• **The Man**—Now 56, Petersen has been with Otis for 28 years. He was graduated from the University of Wisconsin in 1917, served as a first lieutenant in World War I. He started with Otis in 1921 as a student salesman in Atlanta, Ga. Within two years he had jumped several rungs to become office manager of the Springfield (Mass.) branch. And in 1924 he was made the company's general sales engineer, four years later became vice-president. He held that job until 1943, when he was made executive vice-president. He has been president since 1945.

For relaxation, Petersen likes to fish, hunt, play golf. He is married and has two children.

—Cover photograph by Bob Iscar

"You'll save time and money the Printing Calculator way"



There's no place for waste in business figure work, and with the new Remington Rand Printing Calculator you eliminate re-runs for accuracy and manual copying from hard-to-read dials.

Extra motions are gone because every problem is automatically calculated—every factor, and every answer is automatically printed on the tape. And, the tape is your proof of accuracy, your *printed*, permanent record . . . on file for future use.

Now color engineered in smart, eye-ease "gray-tone", only the Printing Calculator automatically divides, multiplies, adds, subtracts and prints problem and answer. Add the faster ten-key keyboard and automatic completion and clearance of the problems, and you have a money-saving calculator that prints *plus* a completely electrified adding machine—two machines for your one modest investment.

See this *Printing Calculator* at work on your work . . . call your Remington Rand representative, or write for full details to Remington Rand Inc., Dept. BW-8, New York 10.

Check list of money and time savers . . .

Printed Proof: Every factor and answer printed. Takes only a second to check the tape for accuracy.

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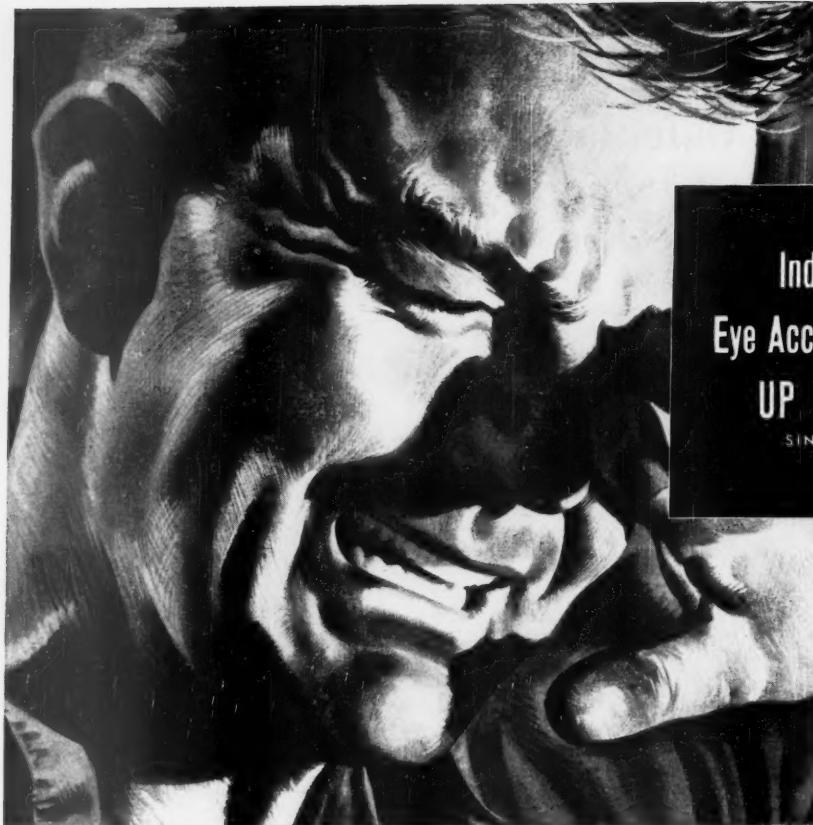
Electrified Multiplication: Single-action multiplication is faster, easy, foolproof.

Lists, adds, subtracts: This versatile machine doubles as a calculator that prints—and as a completely electrified adding machine.

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Soundproofed and Electrified: Steel cushions keep high-speed motor vibration muted. It's quick, quiet—with printed proof for accuracy.

Remington Rand
Automatic Printing Calculator



Industrial
Eye Accident Costs
UP 78½%
SINCE 1939

This High Cost...
without a Friend among Management or Workers—
Can Be Cut Immediately!

INDUSTRIAL eye accidents occur at the rate of two a minute. They average more than \$5 per employed worker per year in cost. In the campaign to maintain production wages and profits at rewarding levels, an American Optical Company eye protection program that can prevent 98%

of these accidents merits serious consideration. (One large company saved over \$44,000 annually with an AO program.)

Your AO Safety Products Representative has complete case histories showing *how much* the AO program does and *how little* it costs! Ask him to call.



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SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

BUSINESS OUTLOOK

BUSINESS WEEK
AUGUST 13, 1949



Business has been good enough right along so that it doesn't take much to make it better (page 19).

Steel demand is gratifying, considering the way it tobogganed in the spring. The operating rate, climbing a point this week, is above 82%.

The auto industry, so far in August, has been zooming along at a rate of 690,000 cars and trucks a month. If realized, that will be a record.

Electric power keeps a small edge over a year ago.

Railroad freight loadings, among the standard indicators, is one of the few laggards. Meanwhile, truck freight still is a bit ahead of 1948.

Wage negotiations loom large in the business outlook. Union demands tend to put an "if" ahead of any forecast:

If there's no strike in steel; if there's no strike in coal; if there's no strike at Ford. Any of these would make recovery harder.

There's hardly a place in the economy where a strike would not be deflationary these days.

Time was, during postwar scarcities, when a strike made everything people wanted just that much harder to get. Against that background, we had the unusual spectacle of strikes that were positively inflationary.

Today, though, there is none of that (not even in autos). The main result of strikes now would be people losing wages, purchasing power.

That would be on top of unemployment's cut in purchasing power.

The brightest spot in the rubber picture is original-equipment tires.

Sales of passenger-car tires to the auto makers in the first half of the year set a new record at 13,334,000. Sales of original-equipment passenger-car tires for the same period last year were 10,166,000.

However, replacement sales disappointed Akron. These came to only 17,691,000 against 20,218,000 a year ago. Thus, the year seems likely to fall 4-million to 6-million behind expectations in this important field.

Half-year shipments of truck tires fell to 5,753,000 from 7,093,000.

Food prices right now are probably staging the last rise of this year.

Fresh fruits and vegetables have risen (contrary to the normal seasonal pattern) because of drought. Heat also has hurt the keeping quality.

Another rise has been in hogs (about \$3 a cwt., live-weight, in the last few weeks). This week in Chicago, porkers hit the highest price since last November. This is the slow season for hog slaughter.

Ample supplies of beef have kept meat prices from running away. In a few weeks, the fall hog run (larger than a year ago) will nip the rise.

Meat animals, poultry, and dairy products should remain relatively plentiful for many months to come.

The main reason is plentiful feed crops. The biggest factor here is the corn crop which, this week, was officially estimated at 3,538,257,000 bu.

Such a crop would be topped only by last year's 3,650,548,000 bu.

The wheat harvest, however, has been pared again. The new estimate is cut 57-million bu. to 1,131,820,000. Even so, the crop will probably exceed domestic needs and export demand by a substantial margin.

Corn still has a few more critical weeks. The ground is drying. Rain

BUSINESS OUTLOOK

(Continued)

BUSINESS WEEK

AUGUST 13, 1949

and cooler weather are needed if the ears are to fill well. However, with good breaks on the weather, it is still possible that this year's corn harvest can even exceed last year's record breaker.

Slightly lower food prices match slightly lower consumer income, so Americans this year will eat about as much as in 1948. And consumption per capita will be about 10% higher than 1935-39.

The Dept. of Agriculture figures, on the average, that we will eat more pork, more of the better grades of beef, more chicken, turkey, fresh fruits (other than apples and citrus), canned fruits, butter, and cheese.

Decreases are expected in lower grades of beef, and in veal, lamb, mutton, eggs, fresh citrus and canned citrus juices, and fresh vegetables.

Exports of American foods will be off a bit the rest of this year.

This year's cotton crop isn't coming up to expectations—but it still will add to the surplus.

The 1949 crop was estimated this week at 14.8-million bales; old-crop cotton carried over will add about 5½-million bales. That brings the total supply for the 1949-50 season to about 20.3-million bales.

Domestic use is recovering. Even so, it is optimistic to count on consumption of more than 8-million to 8½-million bales.

Exports are likely to dip from last season's unusual total of 4¾-million bales. Total disappearance isn't likely to top 12-million.

This indicates a surplus of about 8-million bales, maybe more. That isn't large by the standards of the middle thirties, but it's enough to keep prices down pretty close to the government's support level.

Disappointing yields are the cause of this year's smaller cotton crop.

Last year broke all records on a national average—313.1 lb. to the acre. This year's Aug. 1 crop condition indicated only 274.4 lb.

Thus, even though acreage is up about 14% over 1948, the present prospect is that 0.4% less cotton will be picked than last year.

Unusual weevil damage is a major factor in cutting this year's yield. Too much wet weather earlier this year favored weevil development; in addition, wet weather made it difficult to dust as protection against the pests.

Marketing note: If you sell the cotton farmer, your eyes should be on Texas. Acreage is large. Crop condition is good. Estimated yield this year is 4,450,000 bales against 3,150,000 in 1948. The 10-year average for the Lone Star State (1938-47) was 2,722,000 bales.

Whatever difficulty business may have been experiencing, it hasn't been due to any decline in consumers' wherewithal.

Part IV of the Federal Reserve's survey of consumer finances notes that consumer holdings of liquid assets "increased slightly during 1948."

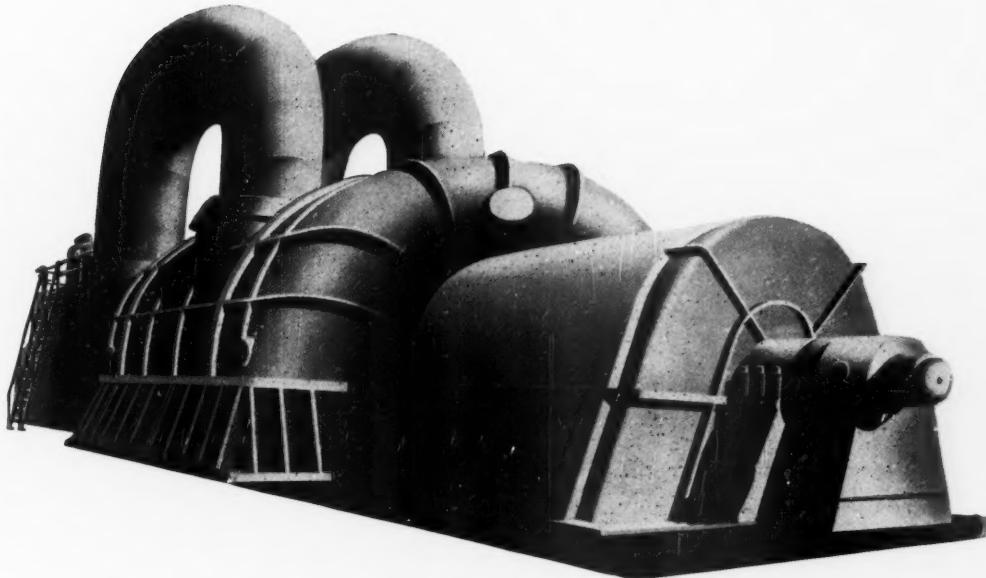
Moreover, there was no increase in concentration of holdings. The survey finds evidence that "a slightly larger proportion of spending units in the lower third of the income scale held more liquid assets early in 1949 than in early 1948, while the reverse was true in the upper two-thirds." (A "spending unit" is a group living under one roof pooling their money for major expenditures.)

Some 36-million of the 50.4-million spending units held some sort of liquid asset (other than currency) at the start of this year.

GULFCREST OIL

makes outstanding performance record

in World's Largest Single-shaft Turbine



This 165,000 kw unit, the largest single-shaft steam turbine in the world, is an important part of the nation's electric light and power system—provides enough electricity to supply the needs of 500,000 average U. S. homes.

In this great unit, as in scores of other big turbine installations, Gulfcrest Oil has made an outstanding performance record. More than ten years in service with no significant change in its original characteristics is proof of Gulfcrest Oil's superior quality.

Gulfcrest Oil is one of Gulf's exclusive line of Alchlor processed oils. Extra refining by this process not only removes more of the sludge formers than any other refining method, but imparts to oils greater ability to benefit from the addition of

special inhibitors which control oxidation and prevent rust.

If you have not already done so, it will pay you to investigate scientific lubrication as a source of greater production and lower costs. Call in a Gulf Lubrication Engineer today and ask him to make suggestions for improving your lubrication practice. Write, wire, or phone your nearest Gulf office.

Gulf makes available top quality passenger and truck tires — ask your Gulf representative

Gulf Oil Corporation • Gulf Refining Company

Division Sales Offices: Boston • New York • Philadelphia • Pittsburgh
Atlanta • New Orleans • Houston • Louisville • Toledo



Helps make machines produce more at lower cost

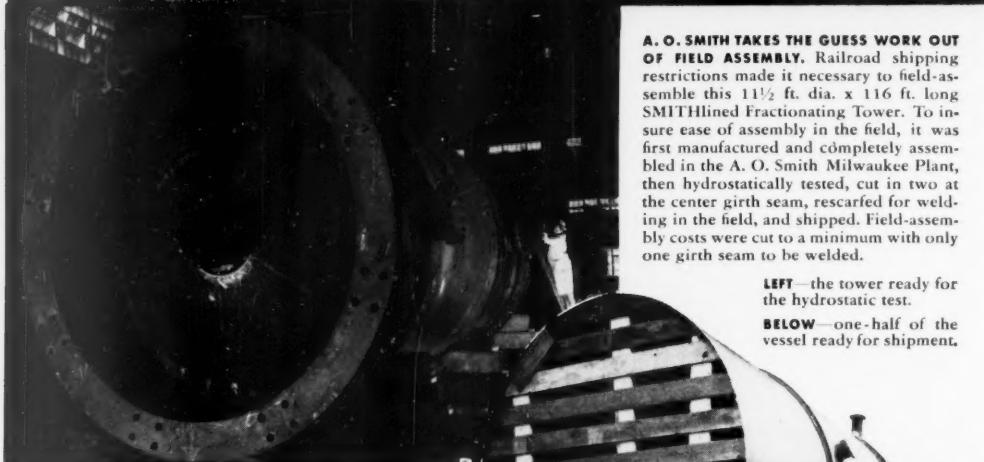
VESSEL DIVISION

NEWS



A. O. SMITH
Corporation

New York 17 • Philadelphia 5 • Pittsburgh 19 • Atlanta 3 • Chicago 4
Tulsa 3 • Houston 2 • Seattle 1 • Los Angeles 14
International Division: Milwaukee 1

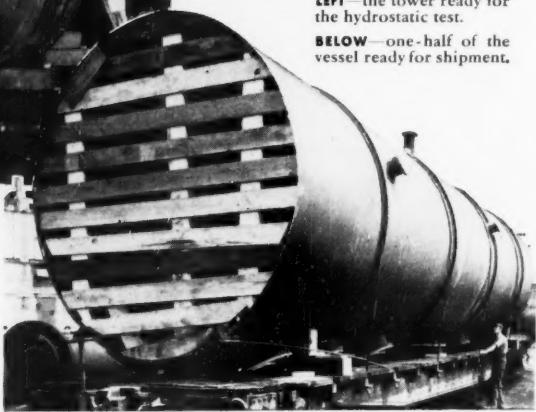


A. O. SMITH TAKES THE GUESS WORK OUT OF FIELD ASSEMBLY. Railroad shipping restrictions made it necessary to field-assemble this 11½ ft. dia. x 116 ft. long SMITHlined Fractionating Tower. To insure ease of assembly in the field, it was first manufactured and completely assembled in the A. O. Smith Milwaukee Plant, then hydrostatically tested, cut in two at the center girth seam, rescarfed for welding in the field, and shipped. Field-assembly costs were cut to a minimum with only one girth seam to be welded.

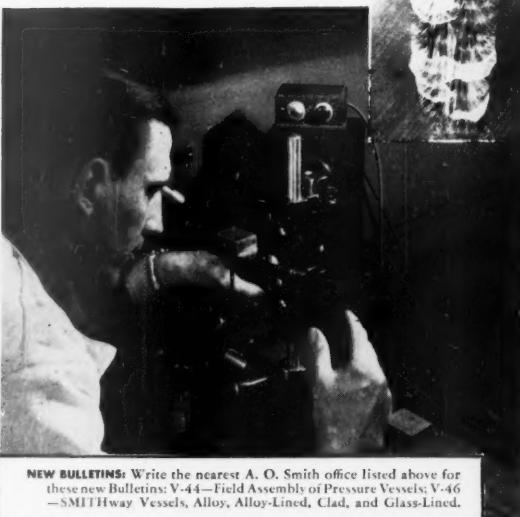
LEFT—the tower ready for the hydrostatic test.

BELLOW—one-half of the vessel ready for shipment.

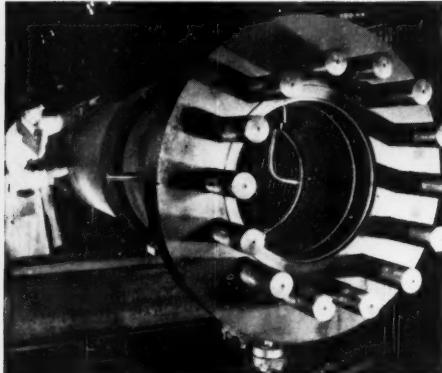
MANY TESTS BEYOND CODE REQUIREMENTS are a regular part of A. O. Smith vessel production control procedures. Here Bill Poehlman, a 20-year veteran, in charge of spectroscopy and X-Ray research, checks the deposited weld metal composition in a vessel test plate, by means of an A. O. Smith-developed microspectrographic technique.



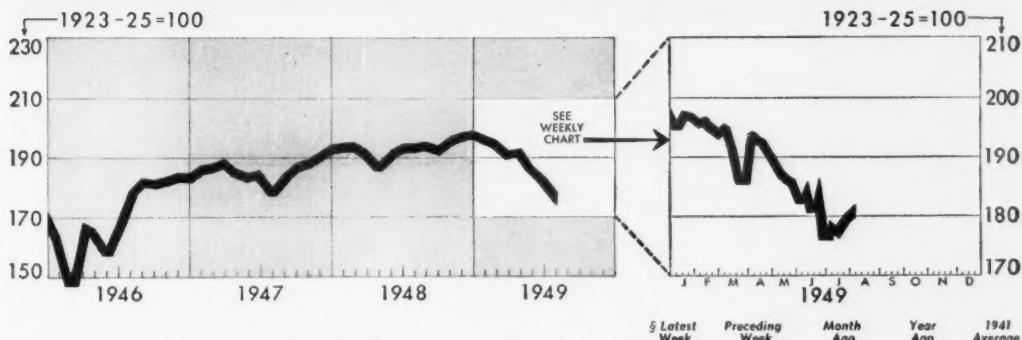
IN STOCKHOLM, SWEDEN, they know about the famous SMITHway welded Multi-Layer vessel construction. Here is one of two SMITHway Inconel-lined Multi-Layer Autoclaves for fatty acid service, with a shell thickness of 5 inches and an operating pressure of over 5,000 psi. This vessel was shipped direct by ocean-going ship from Milwaukee to Stockholm.



NEW BULLETINS: Write the nearest A. O. Smith office listed above for these new Bulletins: V-44—Field Assembly of Pressure Vessels; V-46—SMITHway Vessels, Alloy, Alloy-Lined, Clad, and Glass-Lined.



FIGURES OF THE WEEK



Business Week Index (above) *181.9 †181.2 178.8 194.7 162.2

PRODUCTION

	Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Steel ingot operations (% of capacity)	82.3	†81.3	77.8	94.9	97.3
Production of automobiles and trucks	144,707	†138,727	118,611	108,864	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	\$32,797	\$30,007	\$31,519	\$25,227	\$19,433
Electric power output (million kilowatt-hours)	5,466	5,518	4,982	5,319	3,130
Crude oil (daily average, 1,000 bbls.)	4,670	4,677	4,668	5,505	3,842
Bituminous coal (daily average, 1,000 tons)	1,227	†1,166	218	2,094	1,685

TRADE

	Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Miscellaneous and L.C.L. carloadings (daily average, 1,000 cars)	69	68	70	81	86
All other carloadings (daily average, 1,000 cars)	51	52	37	68	52
Money in circulation (millions)	\$27,419	\$27,333	\$27,659	\$27,922	\$9,613
Department store sales (change from same week of preceding year)	-11%	+10%	-10%	7%	+17%
Business failures (Dun & Bradstreet, number)	171	168	153	116	228

PRICES (Average for the week)

	Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Cost of Living (U. S. Bureau of Labor Statistics, 1935-1939 = 100), June	169.6		169.2	171.7	105.2
Spot commodity index (Moody's, Dec. 31, 1931 = 100)	342.8	341.7	336.3	428.1	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	214.5	213.9	208.9	281.2	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	295.0	295.4	295.8	354.8	146.6
Finished steel composite (Iron Age, lb.)	3,705¢	3,705¢	3,705¢	3,720¢	2,396¢
Scrap steel composite (Iron Age, ton)	\$20.00	\$19.92	\$19.33	\$43.16	\$19.48
Copper (electrolytic, Connecticut Valley, lb.)	17.625¢	17.625¢	17.370¢	23.215¢	12.022¢
Wheat (Kansas City, bu.)	\$2.06	\$2.05	\$1.99	\$2.12	\$0.99
Sugar (raw, delivered New York, lb.)	5.85¢	5.85¢	5.85¢	5.79¢	3.38¢
Cotton (middling, ten designated markets, lb.)	31.35¢	31.53¢	32.41¢	31.75¢	13.94¢
Wool tops (New York, lb.)	\$1.618	\$1.613	\$1.590	\$1.784	\$1.281
Rubber (ribbed smoked sheets, New York, lb.)	16.30¢	16.40¢	16.33¢	24.80¢	22.16¢

FINANCE

	Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
90 stocks, price index (Standard & Poor's Corp.)	122.0	119.9	115.8	126.4	78.0
Medium grade corporate bond yield (30 Baa issues, Moody's)	3.42%	3.44%	3.47%	3.42%	4.33%
High grade corporate bond yield (30 Aaa issues, Moody's)	2.63%	2.64%	2.68%	2.84%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average)	11-13%	11-14%	11-12%	11%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	11-12%	11-13%	11-12%	11%	4-1%

BANKING (Millions of dollars)

	Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Demand deposits adjusted, reporting member banks	46,282	46,683	45,844	46,777	††27,777
Total loans and investments, reporting member banks	63,796	63,458	62,555	63,168	††32,309
Commercial and agricultural loans, reporting member banks	12,831	12,891	13,005	14,627	††6,963
Securities loans, reporting member banks	2,181	2,006	2,184	1,540	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks	35,773	35,590	34,735	35,023	††15,999
Other securities held, reporting member banks	4,864	4,837	4,653	4,341	††4,303
Excess reserves, all member banks	940	940	1,410	730	5,290
Total federal reserve credit outstanding	19,213	19,075	19,779	21,897	2,265

*Preliminary, week ended August 6th.

†Date for "Latest Week" on each series on request.

††Revised.



MY MOTHER FAINTED!

Murphy, the foreman, ran all the way from the factory to break the news. Crushed under a fifty-foot steel girder. That's what happened to my father!

Do you know what it's like to grow up without a father? I guess I grew up kind of wild. And some mornings Ma's eyes were red and swollen like she had been crying all night.

Sure, we got some of the breaks. Ma got compensation payments from the insurance company so we always had something to eat and a roof over our heads.

I guess I was pretty tough when I went to work at the factory. I couldn't get Pa out of my mind—and I figured I'd be smart. Even if they didn't run a safe plant, I wasn't going to get hurt.

Smart? I was a kid then and didn't know the score. Two years ago they put me on the plant safety committee—and that's when my eyes were really opened. An insurance man came to most of our meetings—and brother did he know that plant inside out! We didn't do anything big or exciting. Just made sure that oil spills were cleaned up, lights put over dark stairways, the moving parts of machinery guarded and then painted a bright color.

Little things—but they paid off in a big way. We've worked a million hours in our plant, without one guy getting hurt.

So we've won a Liberty Mutual Safety Award—and I'm taking Ma to the flag-raising ceremony this afternoon. I guess there's no place in the world where everyone could get

so excited about saving lives—except right here in the U.S.A.

* * * * *

The frequency of industrial accidents was slashed 50% between 1930 and 1946. Liberty Mutual has been a leader in cooperation with management, in making industry a safer, better place to work. For example, we have helped 3,000 policyholders establish records of 1,000,000 man-hours without lost-time accident. This has greatly reduced the cost of their insurance.



We work to keep you safe

We work to keep you safe . . . to protect business, home and car owners from crippling

*loss . . . to remove the causes of home, highway and work accidents . . . to relieve the pain
and financial burden of accidents by prompt, fair and sympathetic handling of all claims*



WASHINGTON OUTLOOK



THE REAL SIGNIFICANCE of Federal Reserve Board Chairman McCabe's statement this week is this: There's now a key man in Truman's administration pronouncing an alternative to government-guided industrial expansion.

All year, the official talk has been in the vein of the Spence and Murray bills—that government must lend the money for, or itself build, enough capacity to keep everyone working.

Now the chairman of FRB tells congressmen: The better way is to create a climate in which people will shift some savings from banks and insurance annuities to business equities.

McCabe's program calls for action by both government and business.

To government he suggests—

Cut taxes on high income brackets; reduce double taxation on dividends; halt issuance of tax-exempt bonds; end the tax-exempt status of insurance investments; let insurance companies buy good common stocks.

To business he suggests—

Do a better job of selling your business as a good place to put savings; learn how to merchandize your stock issues; set up venture-capital pools in your communities—development corporations, capital banks, and the like.

Note this, too: McCabe pointed out that investors are attracted more by the size of dividends than by the size of earnings. He made it clear that he thinks the stockholders are right; that it would be better if business didn't have to finance expansion out of retained earnings.

McCabe didn't clear his statement with the White House before sending it up to the Senate Banking Committee. Nor is it a formal policy statement of the Federal Reserve Board.

His proposals aren't designed for legislative action this month, or even next year. On taxes, for example, he knows you don't get reforms wholesale, but that you can carry out a long-range revision a step at a time.

YOUR MILITARY DOLLAR will soon get you more defense. Secretary Johnson has contracted with Robert Heller & Associates, Inc., management consultants, to tell the military brass how to save money and step up operating efficiency.

Johnson emphasizes that the Heller job is to

make cuts now, not just draw up a blueprint for how economies might be made.

For the Heller people, this sort of job isn't new. They played a big role in the LaFollette-Monroney plan for streamlining Congress three years ago. Also, they handled the Post Office Dept. job for the Hoover commission.

•
ADD SIGNS OF AN UPTURN in business (page 19):

Latest government figures show personal income at an annual rate of \$213.5-billion in June, up \$600-million from May.

Dividend payments for June were \$826-million, up 13% from June, 1948.

Inventories, down \$1-billion during June, shrank more than seasonally.

•
TAX PAPERWORK in the deductions you have to make from your employees' paychecks is going to be simplified next year.

Now, you fill out two forms at the end of every quarter: one for income-tax withholding, one for Social Security. And you have to send along a separate check with each.

After Jan. 1, the Bureau of Internal Revenue is going to combine the two forms into a single return—requiring just one check.

The plan was first tried out in the Baltimore district. It worked fine. So BIR decided to extend it to the rest of the country.

•
THE CHINA WHITE PAPER primarily is Secretary Acheson's for-the-record justification of the State Dept.'s policy of no-policy for China.

The immediate effect has been only to intensify the clamor over who's to blame for Chiang's going under. But that is just noise over spilt milk.

Congressmen won't write any positive aid program for Chiang and ram it down Acheson's throat. If nothing else, the White Paper helps spike the guns of China-aid men like Bridges, Knowland, and Judd. It lends authority to the voices crying that more money to China is money down a rat hole.

•
Long-term, you can count the White Paper as the necessary preliminary to undertaking anything specific in the way of shaping up a Pacific policy against Communist infiltration. The end of the secrecy shrouding such items as the Wedemeyer

WASHINGTON OUTLOOK

(Continued)

report at least opens the way to bipartisan discussion of the Orient.

True, Acheson isn't interested in Pacific Union yet (page 79). Europe still gets first attention.

But Acheson will have to enlist Republicans like Vandenberg and Dulles when he does turn his mind to the Pacific. So he had to put all the cards in the deck before shuffling for a new deal.

•

MORE GOVERNMENT PRESSURE

for higher wage standards is coming.

Already, you have seen how Labor Secretary Tobin, by using the Walsh-Healy act, is raising minimum wages of employees working on government contracts—in steel, textiles, glass, men's clothing.

Now Wage-Hour Administrator McComb is ready to hit you in another way: He's going to raise the pay levels at which overtime exemptions for white-collar workers begin.

The minimum you have to pay salaried workers to avoid overtime payments hasn't been changed since January, 1942. Here is what McComb's new regulations will do:

For workers defined as executives, raise the exemption break-point from \$30 a week to \$55.

On professional and administrative personnel, from \$220 a month to \$75 a week.

But there is this relief for your payroll: The new regulation won't require overtime payments to any borderline white-collar worker, such as a bookkeeper or a clerk, getting more than \$100 a week.

McComb has had the regulation written for some time. He has been holding it up until the uproar over the higher Walsh-Healey minimums quiets.

•

MEAT AND MILK PRODUCERS would benefit most from the new farm-price-support bill being drafted by the Senate Agriculture Committee. And the way things look now, the Senate bill will be voted into law.

This means that livestock and dairy products will get relatively higher government price guarantees next year than cotton and grains.

Object: to make it more profitable to raise animals than field crops. This would take land out of surplus crops—a long-time aim of Agriculture Dept. experts.

•

The switch in emphasis from cotton, wheat, and corn to animal products is brought about by

installing an up-to-date base period for figuring parity. The current base period—1909-1914—weighs heavily in favor of cotton and grains.

Another change in the parity structure will include the cost of farm labor in figuring parity. The senators are putting this in their bill to offset any drop in price supports that cotton and grains might suffer from the new base period.

The hope is that the labor item in the new parity will satisfy House farm-bloc leaders who last month voted to continue price supports "as is" for another year. Southerners have long tried to get labor costs included in parity computations.

The net effect of the new program: Cotton and grain support will stay at around today's 90% of parity; meat and dairy supports will be even higher.

•

MORE TRADE AGREEMENTS on food and fiber—such as the international wheat agreements—are being worked up by experts of the U.N.'s Food & Agricultural Organization.

Among the commodities being looked over: sugar, fats and oils, cotton, grains.

The idea is to work out quotas and prices to insure that producing countries can move their surpluses—instead of cutting production while there still is a large number of deficit countries.

•

BANK RESERVE REQUIREMENTS are due for another cut before the year is out.

Last week the Federal Reserve Board knocked 2 percentage points off all reserve requirements. Counting the temporary anti-inflation requirements that expired in June, this brings the total reduction to 4 percentage points for reserves required against demand deposits, and to 2½ points for reserves required against time deposits.

The object of the latest cut was to gear monetary policies to the Administration's antideflation program. Further cuts in reserves will have the same purpose.

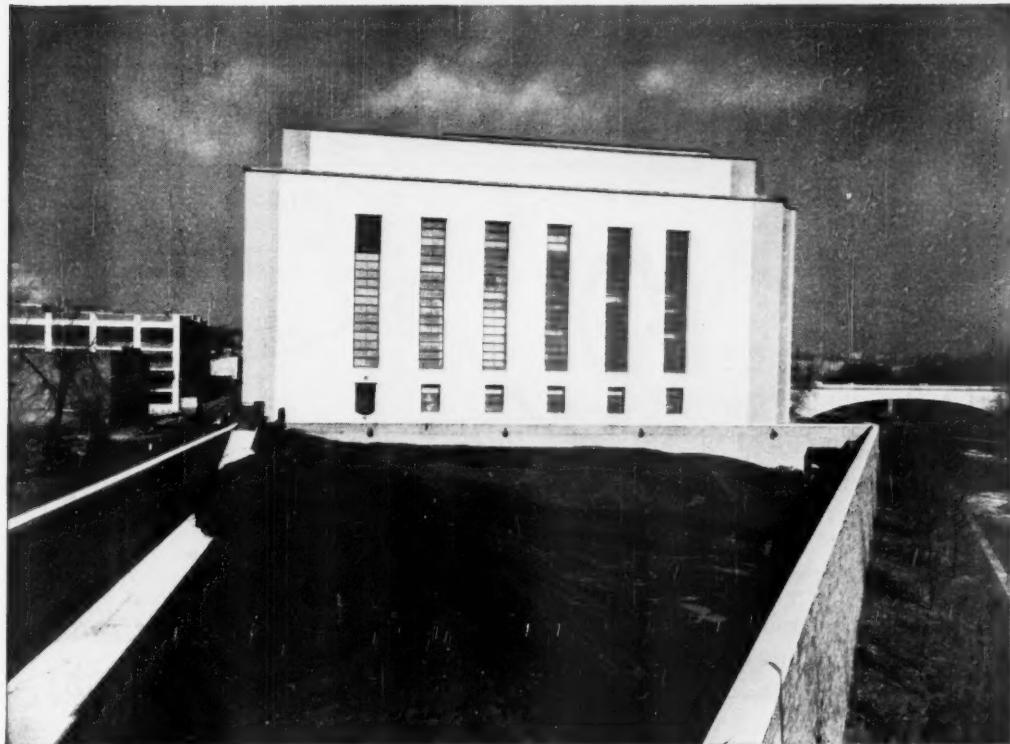
Specifically, these are the reasons FRB will make another slice:

(1) To keep the banks liquid enough to absorb deficit financing.

(2) To provide a climate of easy money so that banks can be ready to finance a business upturn, and so the banks won't be pressed to call in sound loans.

(3) To give FRB elbow room to raise reserve requirements again if it decides it has to tighten up on credit.

COAL helps keep Washington CLEAN!



Federal Works Agency Photo

Think of the nation's capital—and you visualize the sparkling beauty of one of the world's cleanest cities. So it may be surprising to learn that all government buildings in Washington are heated from coal-burning central plants like the new West Central Heating Plant shown above.

In this new structure two giant coal-burning steam boilers are putting out 220,000 pounds of steam per hour—drawing on a coal supply automatically fed from the 15,000-ton coal storage yard in the foreground.

Back of modern plants like these are equally modern mines, preparation plants, and amazingly specialized mining machinery. They're all the result of a long-range, many-million-dollar mechanization program which America's progressive bituminous coal industry undertook long before World War II.

Because the men who run America's efficient mines have matched the progressive spirit of modern industry by promoting new mining methods, the bituminous coal industry is *always* ready to meet all demands for this basic industrial fuel. Today everyone can get not only *all* the coal he needs, but exactly the *kind* best suited for his needs.

Modernizing America's bituminous coal mines has meant replacing "pick-and-shovel" mining with machines. Today more than 91% of production is mechanically cut and 60% is mechanically loaded. And among new preparation plants now under construction is one designed to wash and grade coal at a record rate of 2,000 tons an hour.

Largely as a result of this modernization, the American miner's average daily output is five times greater than that of the British miner—and the American miner's take-home pay is higher than that paid by any other major American industry.

BITUMINOUS COAL

BITUMINOUS COAL INSTITUTE

A DEPARTMENT OF NATIONAL COAL ASSOCIATION

WASHINGTON, D. C.

BITUMINOUS COAL...LIGHTS THE WAY...FUELS THE FIRES...POWERS THE PROGRESS OF AMERICA

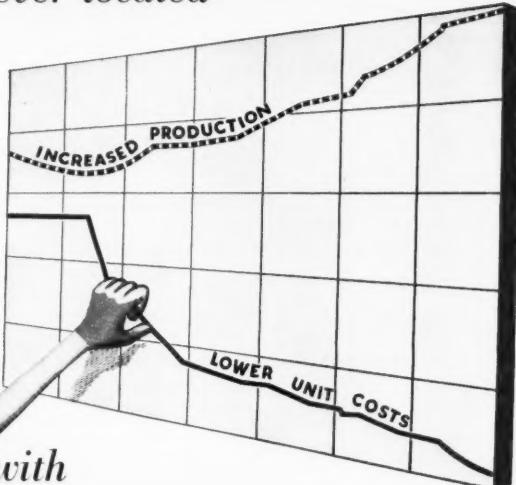
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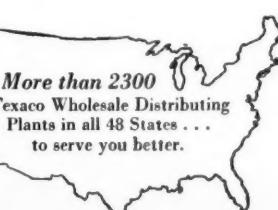
With these specific recommendations all your plants are assured the right lubricants, in the right places, at the right time, in the right quantities. You benefit by greater output and lower unit costs.

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The Upturn—Rally or Recovery?

Good business is in sight for most of this year; but will the slide resume in 1950? Plant and equipment spending may decide.

The six-month slide in business has ended.

Mid-July was the turning point, it's now clear. Late in June volatile indicators like the spot prices of raw materials (chart, right) began to hint at an upturn; by the middle of July the over-all BUSINESS WEEK index hit bottom, turned upward. By now it's evident that a vigorous upward movement is under way.

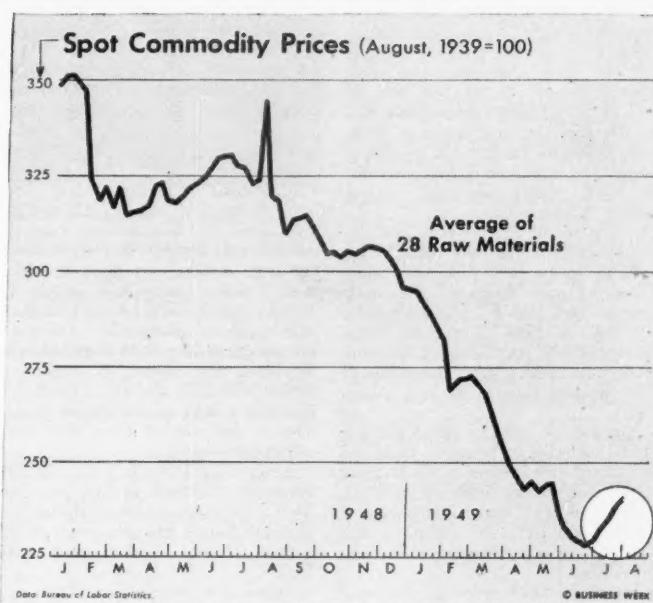
- **Temporary?**—The real question becomes: Is business going to climb back onto the upward slanting plateau of full employment it occupied from mid-1946 until the end of 1948? Or are we seeing nothing more than a brief rally, after which business activity will again begin to sag?

Whether or not it's just a rally or a real recovery, the upturn has now gained so much momentum that it's hard to see how it can fail to carry through most of the remaining months of 1949.

- **Test Period**—The year end is the danger point. At that time, the economy will have some new tests to weather. Auto sales—a strong prop so far this year—will probably slack off in the fall. Exports are expected to drop. Business spending for new plant and equipment will almost surely be down by at least 5% (BW—Jan. 22 '49, p53).

There will be compensating factors at work, too, of course—notably payment of dividends to holders of Veterans Administration life insurance (starting in January) that will pump money into consumers' pockets at a rate equivalent to \$5-billion a year. Increased military spending will be another offset.

But the real question is not answered by any balancing of positive and negative factors. It's whether enough steam, enough momentum, has been generated by the high level of postwar industrial activity to override individual shifts in demand. Will a reduction in spending for automobiles merely mean a transfer of demand to other consumer goods? Will the slackening need for expanded industrial capacity mean a disastrous drop of 25% or more in business spending, or will businessmen continue with



their plans for modernization and improvement—so that there will be only a gradual slide from abnormally high levels of capital investment?

- **The Signs**—The most reassuring evidence you can find that such momentum is still present is the very fact that business is rebounding so abruptly from its 1949 slide. You can see the evidence everywhere of that rebound:

STEEL PRODUCTION made a sharp recovery after the July 4 holiday (which took it well below 70% of capacity) and is now running comfortably ahead of 80%.

ELECTRIC POWER OUTPUT—usually a broad indicator of industrial activity—has been gaining since mid-July.

CARLOADINGS of miscellaneous freight, mostly manufactured goods, has been gaining since early last month.

PAPER AND PAPERBOARD production has snapped back from July's low, is topping even June by 5 to 10 percentage points of capacity.

TEXTILE ACTIVITY is on a definite upswing (page 51).

PRICES of commodities have been rising since late June. Leaders: nonferrous metals, scrap steel, print cloth.

THE BOOMING TRADES, autos and construction, continue to set new post-war peaks. And there are signs of increased activity in many other industries such as lumber, rubber, and consumer appliances.

It's easy to be skeptical about some of the individual items in this list. Firming steel operations, for instance, might result from stockpiling in fear of a steel strike. The upturn in textiles, paper, and other soft goods might be discounted as a normal seasonal swing. But, added together, the facts become impressive. Too many industries, too many indicators to be ignored are turning upward.

- **Inventory Key**—The July upturn came along just about on schedule—or perhaps a month or two early. That is, it was on schedule in the sense that its immediate causes, mostly inventory readjustment, had run their course. You couldn't, with any confidence, have predicted the upturn—because you couldn't be sure

that the recession would limit itself to its original causes. There was always the danger of a downward spiral. When factories slowed to work off inventories, resulting in some unemployment, consumer buying might have dropped off as a result, still further slowing production; and as production slowed even more business might have begun to cut back its spending for plant, steepening the spiral.

• **What Happened**—None of these things happened to any real extent. Consumer purchasing power has stayed high; so have consumer purchases. Personal income in the first half of 1949, at \$213.4-billion annual rate, was well ahead of the same period in 1948. It was falling for the first few months of the year but turned up in May; by June, the latest month available, it had reached \$213.5-billion.

Correspondingly, retail sales held up. In physical volume they actually led 1948 (BW-Jul.16'49,p24), and only because of price drops did the dollar value of retail sales fall 2% behind the first half of 1948. Far from being frightened into retrenchment, consumers actually spent a larger proportion of their incomes than in the last half of 1948.

Nor did any panicky cut develop in capital spending by business. Plant and equipment expenditures in the first half of the year, though lower than the second half of 1948, were slightly ahead of the first half (BW-Jul.9'49,p21). And third-quarter expenditures will be down only about 4%.

• **Inventory Shift**—Actually, the readjustment in inventories can account dollar-for-dollar for as much as two-thirds of the total drop in business.

After the war, of course, nearly all business followed a policy of inventory accumulation.

In 1948, U.S. businessmen added \$3-billion worth of goods to their stockpiles; about 4% more goods were produced than were turned over to consumers.

Late in the year, the situation turned around. In recent months business inventories have been drawn down at an annual rate of about \$4-billion, or more than 5% of production.

• **Index Reflection**—In all, the mere shift in inventory policy was enough to account for a drop of close to 10% from last fall's peak level of production. The total drop in production, as measured by the Federal Reserve Board Index (from a peak of 195 to about 165 in July) has been only 15%.

Business can't live on inventory forever. So as long as consumption held up, industrial production couldn't help but swing back—along about now—toward matching up with consumption.

• **Through the Wringer**—The whole episode is a testimonial to the strength of basic business conditions.

Actually business probably emerges from its six-month slide in rather healthier condition than it went into it. A moderate drop in prices without a corresponding drop in income ought to uncover new layers of latent demand. And in industry after industry, a great deal of the boomtime water has been squeezed out.

Construction, for example, now costs buyers substantially less than it did last year, simply because of the elimination of contingency charges, delays, low productivity, and shaving of profits (BW-Aug.6'49,p19). Textiles have gone through a similar process. To a lesser extent perhaps, the same thing is happening in appliances with the appearance of stripped-down and low-end products.

• **Adjustment Finished**—Across the board, nearly every industry can now get firm prices and firm delivery dates on the materials it needs; this has removed one large artificial cost element. Moreover, business generally is getting its inventory policy onto a basis of realistic adjustment to production. There are exceptions to this last; a notable one developed last month in nonferrous metals, when the upturn in prices precipitated a wave of speculative buying. This is the sort of thing that starts inflationary spirals.

All in all, it looks as if the moderate inventory recession of this year may have accomplished most of the postwar shakeout that it took the severe depression of 1920-21 to effect after World War I.

• **Adjustment Ahead**—Even if that's the case, of course, there's an important readjustment still to come. That's the scaling down of business' very high postwar level of capital investment. If the drop is severe it could cause trouble by the turn of the year.

The big questions for businessmen to watch are:

(1) When will the turn in capital spending come? This quarter was the first to fall behind the corresponding quarter of the previous year. It may turn out to be the beginning of a real decline.

(2) How steep will the drop be? Early this year a McGraw-Hill survey of business intentions indicated a drop this year of no more than 5% below 1948. In recent months, some indexes of new orders for machinery have been falling rapidly; this has an ominous look. On the other hand, actual outlays so far this year have held up well.

(3) When and if spending for plant and equipment drops off substantially, will spending for consumption be able to take up the slack? Or will there be a drop in demand that could precipitate a serious recession or, more likely, large-scale government spending to head one off?

Prefab Financing

Lustron follows Gunnison in adopting plan for interim credit to dealers. Galbreath Mortgage Co. worked it out.

Interim financing for prefabricated houses is spreading. Gunnison Homes, Inc., picked it up first (BW-Jul.23'49, p20). Now Lustron Corp., another big prefab builder, has taken it on.

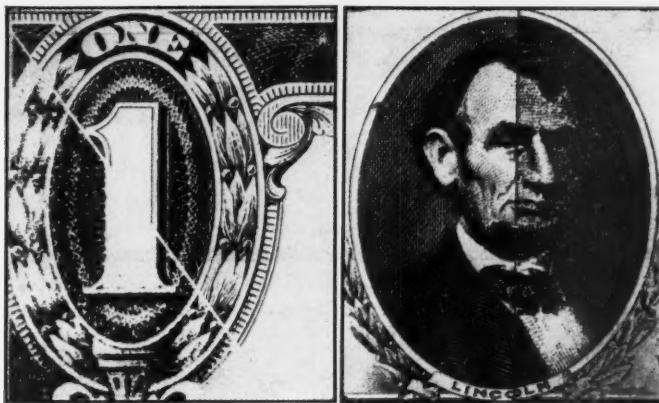
• **Lighten the Load**—The plan actually was worked out by Galbreath Mortgage Co., Columbus, Ohio. Its aim is to solve one of the major merchandising problems facing prefab makers: how to get some of the inventory load off dealers' backs—without taking it onto their own.

Most mortgage lenders are leery about advancing cash for prefab before it's on the lot. Prefab dealers have to rely on their own capital to pay for the houses and carry them through the inventory and building stages. That's one of the main reasons why the industry has had such a tough time getting—and holding—distributors.

• **How It Works**—Here's how the Galbreath plan gets around the need for capital: Suppose a builder-dealer sells a house to John Brown. Brown goes to his bank and applies for a mortgage; the bank approves the mortgage and agrees to pay the builder-dealer when the house has been built or when erection reaches a specified stage. Brown and the dealer then sign a mortgage assignment. This authorizes the bank to pay to Galbreath a part of the mortgage money to cover the cost of the prefab delivered to the dealer. The dealer then sends the mortgage papers to the prefab maker along with an application for interim financing and a note made out to Galbreath. If the manufacturer approves the application for interim credit, he ships the house and sends the papers on to Galbreath. Galbreath immediately pays the manufacturer for the cost of the house; when Brown's bank is satisfied with the state of construction, it sends a check to Galbreath covering the advance and interest on the interim loan.

• **Virgin Ground**—To get the financing plan into working shape, Galbreath officials spent months going over details with bankers and various state officials. W. W. Wheaton, Galbreath's president, did much of the initial research and over-all steering of the plan.

The company has no idea of limiting the financing plan to Gunnison and Lustron. Any prefab manufacturer who can meet Galbreath's requirements can sign up for the interim credit.



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BLURRED background (left), and . . . FLAT portrait (left) are phony. But . . .

Counterfeiting Is on Rise

Secret Service is kept busy these days trying to track down makers of bogus bills. They are more active than at any time since war—even though it's a business which doesn't pay off.

At noon one day last week, U.S. Secret Service agents routed Michael Maione out of bed in New York City. Maione is an ex-convict and ex-bootlegger. Secret Service threw him in jail on \$50,000 bail. The charge: Maione was a key man in a combine which has been floating bogus \$10 and \$20 bills in the New York area during the past year.

• **One More Step**—To the Secret Service, this arrest was by no means the end of the line in a long, hard journey. It was just one more step toward breaking up one of the biggest counterfeiting rings of the postwar period. But to eastern businessmen the arrest was a happy event. Business firms take a far worse financial licking than individuals, during a counterfeiting wave—and this one was no exception.

In the past year and a half, both businesses and individuals have been getting stuck with more "hot" money than at any time since 1940. In that year, a total of \$145,000 in counterfeit bills was in circulation. During the war, the amount stayed below the \$100,000 mark.

• **On the Upswing**—But in 1948, things began to change. Last year a total of \$137,318 was successfully put into circulation. This year—fiscal '49—the figure has risen to \$331,021.

Ordinarily, the Secret Service can find no economic basis for the ups and downs of counterfeiting volume; it was higher at the tail-end of the depression than at its trough. But it can put its

fingers on two big reasons that counterfeiting fell off during the war: (1) Counterfeitors, like other non-essential producers, faced a scarcity of materials—of paper, ink, plates, and so on, and (2) they found that they could make so much more genuine money by working in war plants that it was no longer worth while to print their own.

• **Crime Doesn't Pay**—Counterfeiting, in fact, seems to be a poor way to make a living. For one thing, the income from it is a lot smaller than most people think.

For another, even the cleverest counterfeiter is almost sure to fall into the hands of the Secret Service. As a result, probably no U.S. counterfeiter has died rich.

• **Marketing Arrangements**—But the really good counterfeiter figures that somehow he can outwit the government. He shoots toward that goal by setting up a businesslike chain of wholesalers and retailers to mask his operations. One of these links in the Maione chain was broken this week when a 52-year-old New York grandmother, Mrs. Beatrice Resch, gave herself up to the Secret Service. She is charged with being the link between Maione, who sold money to wholesalers, and a distributor in Connecticut. Here's how a counterfeiting "business" is usually laid out:

Only one person, the "contact man," knows who the manufacturer is. He pays the manufacturer about \$1 for each \$10 bill, \$2 for a \$20. The con-

tact man then sells his money to "distributors"—at around \$1.50 for each \$10. The distributor sells them to a "dealer" for \$2. The dealer marks them up to the "passer" to \$2.50 or \$3. If the passer can get rid of the \$10 bill successfully—by trying to buy something with it—he is ahead about \$7 on the deal. If he doesn't, he can wind up in jail for 15 years and get a fine of \$5,000.

The main object in setting up a counterfeiting ring in this complicated way is to keep the manufacturer in business. If the Secret Service nabs him, the whole ring collapses right there. Even so, a great majority of phony bills never get into circulation.

• **Foreign Fields**—For example: In 1948, the Secret Service managed to seize \$2,948,437 more before it could be passed—the biggest haul in any year since 1920. The bulk of it came from the seizure of a counterfeiting ring in France which was ready to pass \$2,125,000 in phony U.S. notes.

Especially these days, of course, foreign fields look fertile to the counterfeiter of U.S. money. Foreigners have little knowledge of U.S. notes at best, and are thus normally highly gullible on phony money. And the current dollar shortage leads them to jump at anything resembling American money.

• **No Competition**—But alongside a genuine note, the defects of a phony bill usually show up sharply even to a foreigner. This is especially true of the portrait, which appears flat and lacks the fine detail of the genuine note.

Why, then, don't counterfeitors get their bills up to official U.S. standards? The answers are (1) cost, and (2) craftsmanship. Few counterfeitors have the money—good money, that is—to spend on the equipment needed to turn out a really high-class bill; just one piece of equipment at the U.S. Bureau of Engraving & Printing costs around \$12,000. Furthermore, it takes weeks for a highly-skilled craftsman to engrave by hand some of the finer work on plates. No counterfeiter could afford to pay such a craftsman.

• **Other Tactics**—Unable to produce a carbon-copy of a genuine note, the counterfeiter must resort to other tactics. One of these is to stick to making \$10 and \$20 bills. Anything below a \$10 is usually considered unprofitable (although there are some phony \$5 and even \$1 bills). And anything over a \$20 arouses suspicion. There is relatively little coin counterfeiting.

The Secret Service considers people that handle money regularly—clerks, cashiers, shopkeepers, etc.—its first line of defense against counterfeitors. It urges each of these people to get to know every kind of U.S. bill, keep various denominations in the cash register for comparisons.



1 In old-fashioned skywriting, one plane takes about 15 minutes to spell out "Pepsi-Cola." In that time, the first letter may blow away



2 In skytyping, seven planes in a line "type" letters with individual dots of smoke. Here they type "skytyping test" in two minutes flat



4 Father of skytyping, Sidney S. Pike (right), president of the Skywriting Corp. of America, plans a job with lead pilot Andy Stinis



5 Stinis points to the exhaust pipe where engine heat turns an oil-base chemical into smoke at a rate of 1-million cu. ft. a minute

Skytyping Takes the Place of Skywriting-

Seven AT-6 planes owned by the Skywriting Corp. of America put a new word in the vocabulary last week. They roared across Manhattan's skies in a single-line formation spelling out SKYTYPING TEST in puffs of white smoke. It took them a mere two minutes.

Skytyping's speed lies in the fact that it employs not one plane, but a string of them hooked together by radio. The lead plane controls the whole operation; the

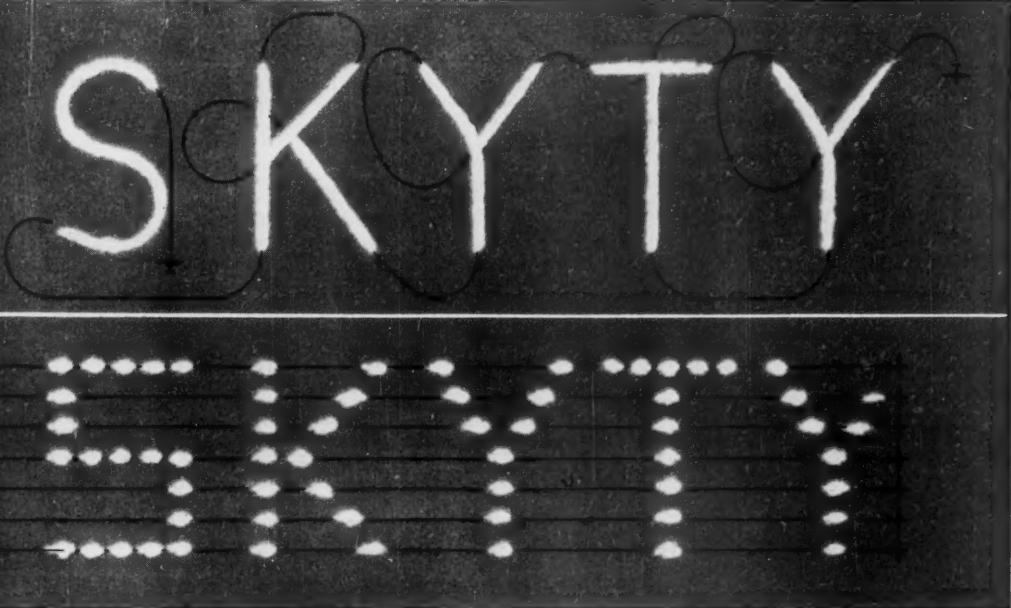
other planes just fly straight ahead, automatically tapping out their message in smoke puffs.

• **Radio Hook-up**—Each plane carries a conventional smoke-making device under the engine cowling. Each is also equipped with a radio, which is connected to the smoke device. The radios are set to respond to a predetermined number of impulses.

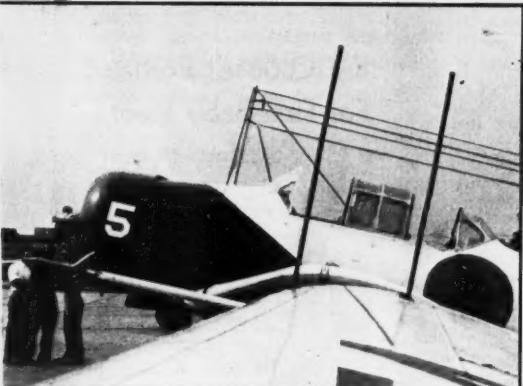
Here's how the system works: The

master copy is set up in a pattern of electric switches inside the lead plane's control box. When the lead pilot is satisfied that the planes are in alignment, he throws the main switch on the control box. This sets the contacts revolving. As each switch closes, it transmits an impulse to the radios in the other planes.

Each impulse injects a shot of the oil-base chemical used in skywriting into the plane's exhaust. The smoke produced



3 Drawing shows why skytyping is safer than skywriting. Planes fly a straight line. This eliminates loops, rolls, dives formerly needed



5 Pilot keeps formation by lining up his neighbor's wing tip on these upright rods. Lead plane (No. 5) has transmitting antenna



7 Stinis controls skytyping by radio from a master switch in the lead plane. Other pilots do nothing but fly straight ahead

or Aerial Ads

makes one dot in the formation of a letter.

• **Up to Seven**—“The number of planes used,” says Sidney S. Pike, president of Skywriting Corp. of America, “will vary according to the amount of copy in an advertiser’s message. Five planes can handle short copy. But seven planes are used on average-length messages, such as ‘skytyping test’.”

Skytyping “types” the copy in clearly defined block letters composed of individ-

ual dots of smoke. (In conventional skywriting, the plane spews out a continuous stream of smoke in forming the letters.) The planes’ 70-gal. tanks hold enough chemical for 20 to 35 skytyped messages—depending on the amount of copy.

• **Major Factor**—Skywriting Corp. claims 97% of the skywriting market. Its only competition comes from free-lance fliers with one or two planes. Skywriting Corp.’s biggest and oldest accounts are the Pepsi-Cola Co. and I. J. Fox, New York furrier. While no customers have as yet signed up for skytyping, Pike says both Pepsi and Fox are interested.

Compared with single plane skywriting, skytyping is more expensive. But figured on a national coverage quantity basis, says Pike, the cost is about the same as the old system. The more an advertiser uses it, the cheaper it is.

Now that skytyping is available for commercial use on a national scale, Skywriting Corp. is turning its attention to reproducing trademarks in the sky.

Also in the research hopper is experimentation with colored smoke for writing against cloudy skies. So far, says Pike, no one has been able to get a color that’s sufficiently vivid.

Detroit Gas Rush

New pipeline ends three-year ban on home gas-heating installations. Some \$60-million worth of new orders expected.

The Michigan gas-heating industry is bracing itself for \$60-million worth of new business.

• **Ban Off**—A three-year ban on the installation of home gas-heating has just been lifted. And Michigan heating dealers—mostly in Detroit—have a business rush of gold-camp proportions on their hands.

The Public Service Commission originally set up the ban on areas served by the Michigan Consolidated Gas Co. The purpose was to relieve drains on the gas supply to the strip of Michigan running northwest from Detroit through Grand Rapids to Muskegon.

• **New Pipeline**—Now Michigan-Wisconsin Pipe Line Co., a Consolidated subsidiary, is ending the gas drought; it has just about finished a new pipeline from Oklahoma to Muskegon. This means a practically unlimited supply of gas from now on, Consolidated thinks.

Get three years of orders stopped up, and you have something to work on when you take the plug out. Best estimates of the new market are that about 45,000 installations will be made annually for the next three years.

• **Rush On**—Heating dealers in the area have been preparing for the rush for months. Most of them knew that it was coming; but they weren't sure when, nor did they know how much new gas would be available. They have been hustling around with surveys, canvassing, and promotion of all kinds since early in the year. At least one dealer has already made several installations with the guarantee that if no gas came through in time he would reconvert them to coal free of charge.

Surveys indicated that about 80% of all homeowners who wanted to heat with gas wanted to convert their present coal or oil burners. Conversion units run from \$250 to \$400, depending on how much new duct work is needed. The other 20% were willing to spend about \$1,000 each to get all-new heating systems.

And the applications are pouring in. The first day after the ban ended, 12,000 of them showed gas company offices under. Lines of applicants formed; mail sacks bulged. Permits will be given out on a "first come, first served" basis. Early comers will probably get fast service because Consolidated has no backlog on its books.

Detroit's Common Council did its bit to get the boom rolling. No sooner had

the word come out than it appropriated \$66,000 to expand the city's gas-inspection facilities. About 22 new engineers and inspectors will be hired.

• **Goal—75-Billion Cu. Ft.**—Up to now, Consolidated has been allowed an annual maximum of roughly 45.6-billion cu. ft. for the Detroit-Ann Arbor areas. It has bought this from Panhandle Eastern Pipeline Co. at a maximum rate of 125-million cu. ft. daily. Michigan-Wisconsin hopes to get PSC's permission to bring in another 75-billion cu. ft. over the new pipeline, when the line starts operating. It already has an O.K. on 56-billion cu. ft. for the area.

• **Not Worried**—Coal dealers around Detroit are shrugging off the situation—for the time being, anyway. They figure that gas heat won't make too big a dent in a market that burns 2.5-million to 3-million tons of coal annually.

Trucks vs. Trains

Pennsylvania truckers are out to change the state's strict weight laws. First step: infiltrate the railroads.

The battle between truckers and the railroads is warming up.

• **Infiltration**—Last week a group of Pennsylvania truckers tried a new tactic: infiltration. They did it by the simple expedient of buying common stock in the Pennsylvania R.R.

The truckers admit that they aren't out to buy control of the road. All they want is to be in a position to ask a few questions of the Pennsy's management come next stockholders meeting. Ted V. Rodgers, a Scranton truck operator who is spearheading the move, summed up the truckers' attitude this way: "All we want to know is: Why railroad management keeps hammering away at trucks. We think the railroads should be taking care of their own business, not someone else's."

• **Weight Laws**—Pennsylvania truckers have been fighting since 1941 to get more lenient weight laws from the state legislature. They blame railroad influence—particularly Pennsy influence—for the lack of success.

What the truckers say they want are weight laws comparable to those in neighboring states. New York, New Jersey, Delaware, Maryland, and Ohio all have maximum weights of around 62,000 lb. This is Pennsylvania's maximum—but only for a three-axle truck and a full trailer. Truckers want this limit extended to the more flexible tractor and semi-trailer.

Earlier this year the truckers sent a strong lobby to Harrisburg to camp on the state legislature's neck. The

truckers presented an impressive array of statistics. (Samples: The Pennsylvania trucking industry hires two and a half times as many people as railroads in the state; trucking is the second largest industry in the state, next to agriculture.) And they got the backing of a strong group of steelmen and farmers. But even so, their bill was defeated at the last minute.

• **The Railroads' Case**—The railroads' traditional arguments against trucks are: Trucks don't pay a fair share of taxes on their operations; and they damage highways—causing excessive maintenance costs. In these two arguments they often have the unspoken support of many a motorist who has been forced off the highway by the driver of a lumbering behemoth.

The Pennsylvania and other railroads had had little comment to make about the truckers' stock-buying activities. But last week it began to look as if eastern railroads were tooling up for a strong, long-range public relations program. The Eastern Railroads Presidents' Conference announced that it had formed a transportation committee to make a study of competitive transportation systems. And this week the railroad group was dickered with a major Manhattan public relations company (Carl Byoir Associates) to carry its banner—after the study is completed.

K-F Chooses Portland For First Baby Plant

Kaiser-Frazer Corp. has picked Portland, Ore., to launch its big decentralization plan. It will start building the first of its baby assembly-plants there in November.

Los Angeles is scheduled to get the second plant, once a likely site can be found. After that, K-F will sit back and watch what its experiment works. If it pans out in the two plants, the company will build more. It has equipment on hand now for eight additional plants. Output of each would be 20 cars a day.

• **Lower Costs**—Costs—and eventually prices—will be cut because shipping rates will be less, K-F figures. On a ton-mile basis, freight rates from many of the outlying areas to markets are lower than rates from Detroit.

Then, wages might well be lower. K-F officials say they aren't trying to run away from the unions. But pay scales in the small plants will be based on wage levels in the outlying areas.

• **Skepticism**—Auto people around Detroit are interested but dubious. Nearly all the firms in the industry have partly decentralized final assembly.

So far, though, the output for such plants has never been less than 100 cars a day except for export.

NO DOWN PAYMENT
To Veterans
SMALL DOWN PAYMENT TO VETERANS

**The Home of the Year
at the
PRICE
you have waited for!**

**Look at these
Sensational Features
in this Home
at this Low Price!**

- All Brick Construction
- 3 Bed Rooms
- 2 Bath Rooms
- Large Living Room
- Walk-in Closets
- Fully Insulated
- Insulated Thorough
- All Copper Plumbing
- Circular Air-Temp Gas Furnace
- Hard Kitchen Cabinets
- Matching Bar Range
- Select Hardwood Flooring
- Colored Tile Bath
- Window Seats

A REAL COMPLETE HOME!

\$8995

**G.I. and F.H.A.
Approved**

All you need is \$300 for settlement charges and approx. \$63 per month includes everything.

**Completely Furnished Exhibit Home
by SMITH'S HOUSE OF FURNITURE,
INC., Whetstone - Silver Spring, Md.**

**COME EARLY—
OPEN TODAY AND DAILY**

Go straight on Georgia Ave. to Whetstone, turn left on Taylors Hill Road to Commercial Ave. Enter and Model Home.

UNPRECEDENTED VALUE

**A Full 2-Story House
3 Rooms and Bath**

\$8,250

FHA and GI Approved

\$46.34 Per Month (Plus Taxes & Ins.)

NO DOWN PAYMENT
(To Qualified Veterans)

Sample House Open Sunday, 10 to 7

313 CROYDON AVE.

Rockville, Md.

Features:

2 Large BedRooms. Full Dining Room. A No. 1 Construction. 8 cu. ft. Refrigerator. etc.

HOUSES UNDER \$10,000 are pacing today's brisk home-buying market

Home Building Costs Level Off After Decline

Most cities report costs down 5%. But builders are sure temporary bottom has been reached. Buyers are coming back.

For the thousands of Mr. Blandings who still want to build a dream house, the outlook was a shade brighter this week. House-building costs to contractors, from coast to coast, according to a BUSINESS WEEK survey, are down 5% from a year ago. Translated into prices to home buyers, this means that the same house Mr. Blandings looked at last year is anywhere from 5% cheaper (in Washington, Columbus, Oklahoma City) to 15% cheaper (in Kansas City). • **End of Decline?**—But for the host of Blandings who still plan to hold out for a further drop in costs (and prices), contractors and builders hold out little hope. They are firm in their belief that home building costs, like commercial construction costs (BW—Aug. 6 '49, p19), have reached bottom—for the time being. As one Columbus builder puts it: "We got a 5% drop in costs early this year, and brother, that's it. That's where I look for it to stay unless demand drops way down."

With slight variations, it was the same story for Kansas City, Detroit, Hartford, Oklahoma City, Memphis. • **No End in Demand**—As for demand dropping way down, this is something that no builder, contractor, or federal housing official can see. In Washington, D. C., for example, William Magazine, head of Standard Construction Co. (apartment houses), estimated that even with only moderate population growth, it will take Washington four or five years to catch up on rental housing.

On the other hand, buyers are decidedly choosier. A. L. Guckert, director of the Columbus office of the FHA summed up the attitude this way: "Two years ago people would buy anything. Now they're looking at everything. The days are gone when a builder could tell a prospective customer, 'If you don't want it, the guy standing right in back of you will take it.'"

• **\$8,000 House Is King**—But although buyers are choosier, they are still buying. That is, if the price is right. Today's big demand for houses is in the under-\$10,000 bracket. Builders who can offer something good for around \$8,000 find plenty of takers.

• **Brisk Buying**—Actually, the market for houses has perked up considerably in just the last few months. Last spring buyers were holding off. One reason for this may be that financing is now coming easier in some sections. But a Columbus contractor lays the pickup to human nature: "When prices start down, everybody quits buying. When they start up, everybody jumps in. I'll bet if prices would go up a little in the next four weeks, I'd get a hundred telephone calls from people wanting to build or buy."

Brisk buying in most cities has led most builders and officials to believe that this year's housing starts will at least equal last year's. Among the cities surveyed, only in Kansas City are builders doubtful of this.

In contrast to the under-\$10,000 market, nearly all builders agree that the market for houses costing over \$12,000 has weakened considerably. So have prices. Perce Schley, a leading Milwaukee architect who specializes in the \$30,000 to \$75,000 house, estimates that the cubic-foot cost of such houses has dropped from 86¢ to 75¢ since last October. And everywhere, contractors were reported to have cut to the bone their profit margins on big houses.

• **Labor and Materials**—Unlike the drop in commercial building costs, most builders say that a fair share of the reason for lower housing costs is cheaper and more plentiful materials. Lumber is down, so are plumbing and a few other household fixtures. All these add up in home building.

But, as in the commercial construction picture, another important factor in lower costs is increased labor productivity. Without exception, contractors and builders in the cities surveyed said that labor is turning out more on the job than last year. "The sight of a few unemployed workmen hanging around the contractor's shack is enough to get a guy off his end and into some fancy hammer swinging."

Increased labor output, coupled with plentiful materials, some contractors reported, has cut building time in half. • **Trimmed Profits**—Still another factor in cheaper housing costs: Contractors themselves have shaved their profit margins. As one housing official put it: "Last year some builders were adding 25% or 30% to the cost of a house. Now these fellows are being forced to take a normal profit of 10% to 12%."

More Theater TV

Fabian is latest to go over to movie-house video to lure back crowds on nights when big events are televised.

Last year, a lot of theater owners found they might as well lock their doors when a championship fight was being televised. The customers stayed away in droves.

• **Counterattack**—A few of the owners, though, weren't ready to take the night off. They countered by installing television systems to show the fights themselves. Latest to go over to screen-size video is Fabian Theaters, Inc., which operates 50 theaters in New York, New Jersey, Pennsylvania, and Virginia. Fabian has just signed a contract with Radio Corp. of America for installation of direct-projection TV equipment in its Brooklyn Fox Theater. The equipment will cost \$25,000, plus installation and service charges. Fabian will use it initially to cover major sports contests and important public events. Later on, the theater may include special TV shows.

Fabian tested the TV idea last June when it screened the Walcott-Charles fight in the Fox with experimental RCA equipment. The 4,100-seat house was completely sold out an hour before the fight began.

• **Less Concern**—Last year, motion picture people were seriously worried about the effect of TV on theater revenues. Today they are much less concerned, for, while boxoffice figures are down on a national scale, they are down just as much in non-TV sections as in areas where TV sets are plentiful. The only exception is the half-empty houses that theater owners run into in TV cities on big-fight nights.

The film companies and theater owners that are going over to video plan to use it in two ways: (1) for theater showings of regular telecasts; and (2) for televising films and special programs to be shown in several theaters at once. The televising of films would be done over closed circuits.

• **Paramount**—In April, 1948, Paramount TV Productions, Inc., a subsidiary of Paramount Pictures, Inc., introduced an intermediate-film (I-F) process at the Paramount Theater, New York. I-F records telecast pictures and sound on film; the film is then run through a high-speed developer. Twenty seconds later it is ready to be shown on a regular 35-mm. projector. Paramount later set up this equipment in its Chicago theater.

Right now Paramount's system costs about \$25,000; but the price should

drop when and if the company gets into mass production.

As a sideline, Paramount leases its equipment to free-lancers. These independents make film records of TV shows for peddling to local networks. Paramount charges \$1,500 per day for the rental.

• **RCA-RCA**'s D-P (direct-projection) system costs about the same as Paramount's equipment. D-P has three major optical elements: (1) a projection cathode-ray tube which is the source of the light image; (2) an optical system that projects the image onto the screen; (3) RCA also builds I-F systems similar to Paramount's; it has sold some of them to Warner Bros. and to Twentieth Century-Fox at \$35,000 each.

National Theatres, Inc., a subsidiary of Twentieth Century-Fox, is getting ready a D-P circuit hook-up in 24 theaters in southern California. It hopes to screen simultaneously in all 24 theaters.

• **Channels**—The business of channel allotments for theater TV already has come up before the Federal Communications Commission. FCC has asked the Society of Motion Picture Engineers, Paramount, and Twentieth Century-Fox to submit reports by Sept. 2 on the industry's channel needs.



New President for C-W

Roy T. Hurley, production expert for Ford Motor Co., is new president and director of Curtiss-Wright Corp. He succeeds W. C. Jordan, who resigned earlier this year. Hurley's appointment this week is the second management shake C-W has had since Paul Shields took over as chairman last April (BW-Apr. 30 '49, p.28). An earlier step in Shield's general reorganization of C-W was the advancement of Robert L. Earle to senior vice-president. Hurley is expected to carry on Shield's program of pushing output—especially of nonaviation products.

Polio Insurance

Scared by the mounting polio epidemic, people are snatching up special policies that cover medical expenses.

The polio epidemic has spurred sales of insurance policies that pay your medical bills if you or your children get the disease. The Continental Casualty Co., Chicago, sold over 100,000 polio policies in the first month they were offered. The company expects to sell over 200,000 more during the remainder of this year.

• **Nation-Wide Sales**—Polio insurance isn't exactly new. It has been written as an extra feature of hospitalization policies for several years. And for the last year or so, a number of small companies have been selling all-expense polio policies. But most of these companies have been licensed to write policies in only one or two states. Continental is pushing its polio insurance policy aggressively on a nation-wide basis.

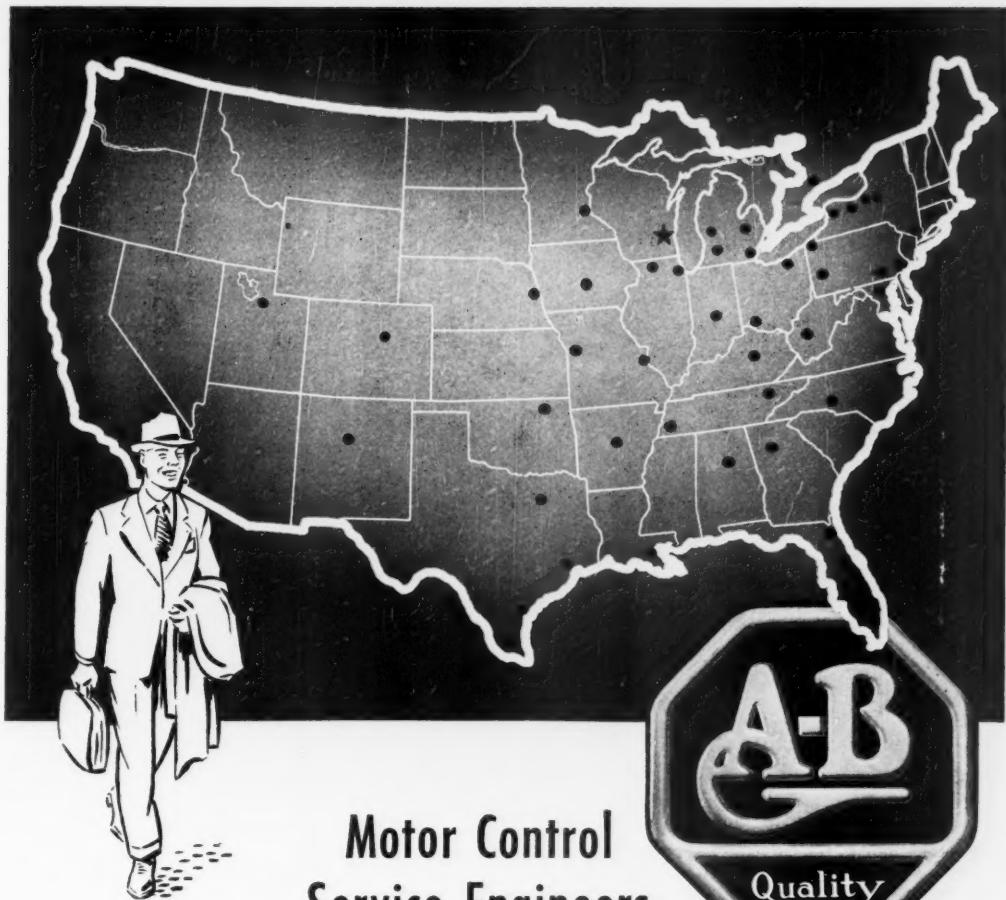
• **What It Does**—Continental's family policy covers all expenses up to \$5,000 for each case. The premium is \$10 for two years. On an individual basis the premium is \$5 for two years. So far, about 90% of the sales have been family policies.

Applications have been coming in by mail and telephone, swamping Continental's offices. One Kansas City agent, for instance, received more than 1,000 applications in one day. Newspaper advertising of the policy includes a blank application that can be cut out and mailed in.

• **Objections**—All this hasn't been entirely pleasing to officials of the National Foundation for Infantile Paralysis. The Foundation sponsors the annual "March of Dimes" campaign to fight polio. An executive of the Cleveland chapter last week criticised the way insurance companies had been advertising the policy. He said ads ignored the fact that the Foundation stands ready to pay all polio medical costs that a family or individual can't meet.

And this week, the Tennessee insurance department warned the public against buying polio insurance by mail from insurance companies not licensed to do business in the state. It pointed out that claims against such companies are sometimes hard to collect.

• **Cases Mount**—Last year, worst polio year since the 1916 epidemic, one in every 5,300 Americans got polio. This year, as of July 30, there have already been about 8,300 cases, compared with about 5,800 at the same time last year.



Motor Control Service Engineers

IN ALL PRINCIPAL CITIES

Allen-Bradley has 50 sales and service offices in the United States, together with many foreign representatives. These offices are staffed with experienced control engineers capable of analyzing your motor control requirements and recommending the proper control units. This field organization is augmented all over the country by the sev-

eral hundred appointed electrical distributors, who not only stock Allen-Bradley controls but render control engineering service.

The next time you are in Milwaukee, visit the Allen-Bradley factory. See for yourself why Allen-Bradley has achieved such a reputation for quality controls. Allen-Bradley Co., 1332 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

Variety makes every month a big month in steady PENNSYLVANIA!



**AUGUST FARM INCOME:
\$69,000,000***

A profitable month, yes, but so is every month in steady Pennsylvania. That's what sets it apart from most other big farm states—variety of product—cash crops all year round!

Take the ones shown here: eggs, milk, tobacco. Pennsylvania is among the top ten states for all of them—plus dozens more.

And Pennsylvania ranks with the top ten states in buying everything from electric ranges (Pennsylvania

fourth) to farm power units (Pennsylvania eighth).

Not only does farm money flow all through the year, but all through the years . . . Pennsylvania farm families have a record for steadiness dating clear back to colonial times. For the better part of those years, they've read PENNSYLVANIA FARMER—just as *7 out of 10* depend on it today.

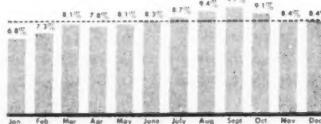
*Based on 3-year average income. Source, U.S.D.A., Farm income situation.

steady buying power

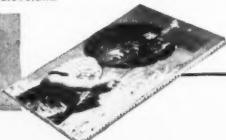
Look at this chart and you see the remarkable steadiness of Pennsylvania's month-by-month farm income. Few "upper third" farm states can match it. Two which do are the other Golden Crescent states, Michigan and Ohio, served by MICHIGAN FARMER and THE OHIO FARMER. For further information, write J1015 Rockwell Ave., Cleveland 14, Ohio.

PENNSYLVANIA FARMER, Harrisburg

THE OHIO FARMER, Cleveland



MICHIGAN FARMER, East Lansing



BUSINESS BRIEFS

Chrysler has told its dealers to stop getting their cars from the factory by contract carrier or private convoy, which often cost less than common carrier. What evidently bothers Chrysler is that some dealers can thus quote lower delivered prices than other dealers in the same area.

The ammonia department at du Pont is a major supplier of raw materials to the plastics department. So du Pont has merged the two and put E. D. Ries, the general manager of the former ammonia department, in charge.

Exports of chewing gum have been climbing ever since the U.S. armed services introduced the stuff to foreign nations. The U.S. exported 11-million lb. last year, which was an 11.8% more than in 1947 and four times prewar volume.

Twin Coach Co. has reopened after its July shutdown (BW-Jul.9'49,p28) to fill some \$2.5-million in new orders. Biggest one comes from Detroit for \$1-million worth of trolley coaches.

The new Buick Specials (BW-Aug.6 '49,p24) cost \$60 and \$80 more than last fall's models: \$1,941 for the two-door sedan, \$1,996 for the four-door model, delivered at Detroit. The new two-door business coupe costs \$1,887.

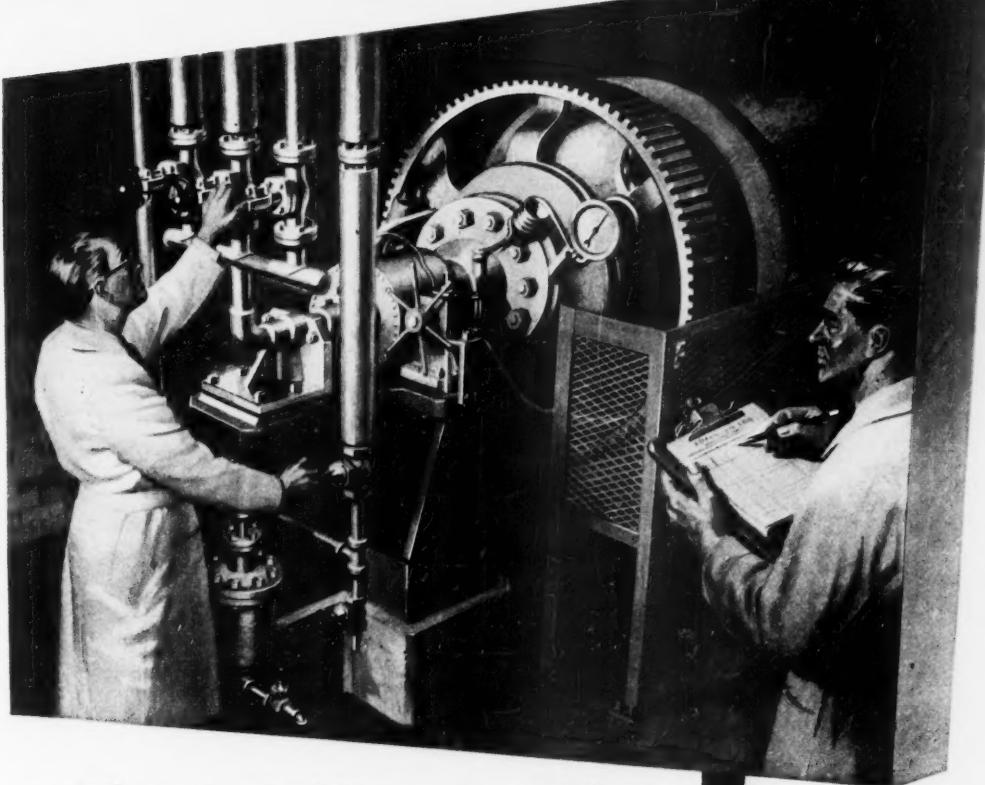
To get business from the bus lines, the Frisco R.R. is cutting its round-trip fare between Oklahoma City and Tulsa from \$5.35 to \$4.20 for a five-month trial period. The new fare is only a few pennies more than the bus.

The death rate among Metropolitan Life's industrial policyholders hit a record low during the first half of the year—6.7 per thousand.

Skycoach service didn't pay on Mid-Continent Air Lines. Traffic averaged 52% of capacity on the Kansas City-Minneapolis run as against 67% on the regular flights. Reason: Skycoaches fly at off hours, and these didn't jibe with the schedules of connecting airlines—from which Mid-Continent gets a major chunk of its traffic.

Increasing demand has brought back a gray market in nylon. Premiums offered hosiery knitters in yarn range up to 50¢ a lb. or more—which may spur du Pont to police the hosiery manufacturers.

*Control means everything in processing synthetic dye intermediates.
Crane can supply all piping equipment.*



Where Control Means Everything

Does your business involve fluid processing? Then you know the importance of having dependable flow control at all times. You must also be aware of the vital role of valves and piping in your plant—and the size of investment such equipment may represent. For these reasons, Crane today suggests careful examination of piping procedures. Are you getting all the cost-saving benefits that standardization and simplification practices make possible? As the world's leading manufacturer and supplier of piping materials to industry, Crane can demonstrate convincingly the economies of standardizing—and help you do it most profitably.

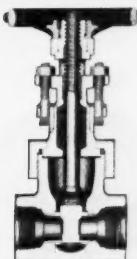
Talk it over—with no obligation—with your local Crane Branch.

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PLUMBING and HEATING



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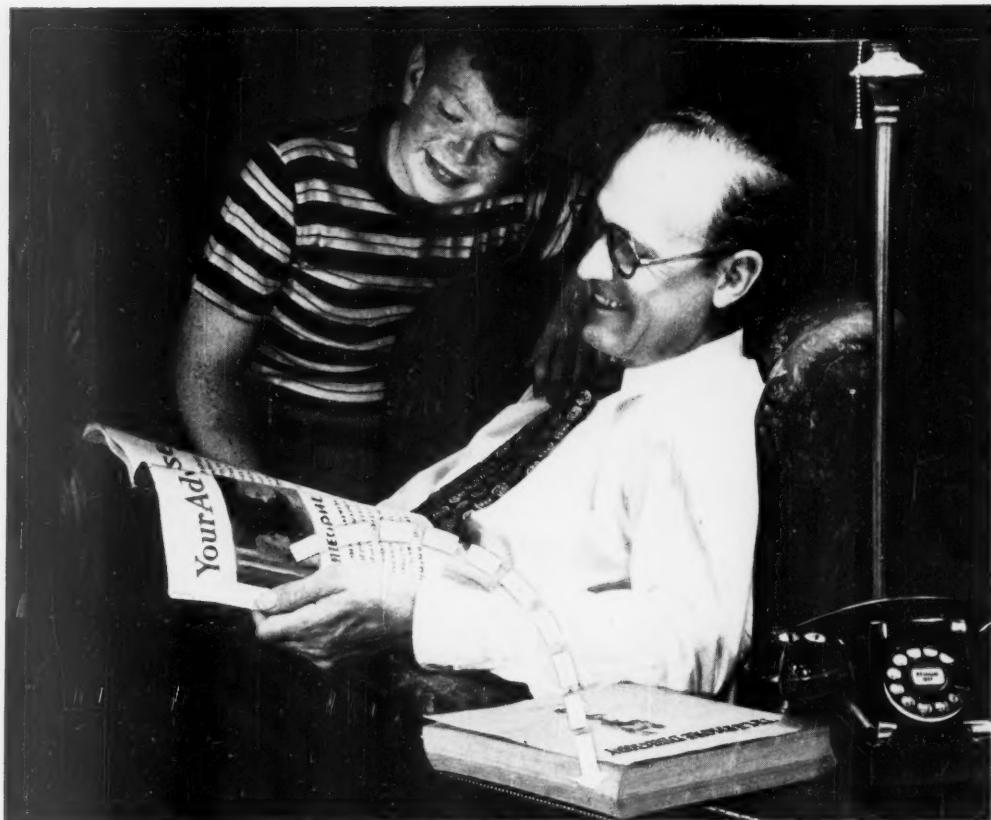


Cross-section No. 3602
Gate, Union Bonnet

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MORE COMPACT**

SMALL STEEL VALVES

For small steel valves with big valve service features, see the Crane 600-pound line of gates, globes, angles, and checks—in sizes from $1\frac{1}{4}$ to 2 in.—with screwed, flanged, or welding ends—and with proved trim materials for your service needs. Look to Crane for valve types like this—made possible by Crane Co.'s unmatched facilities for quality mass production. Contact your nearest Crane outlet for full information.



Shortest distance to a sale...

It would be wonderful, wouldn't it, if you could be at every prospect's elbow just after he finished reading your ad. Then you could direct him quickly to one of your dealers.

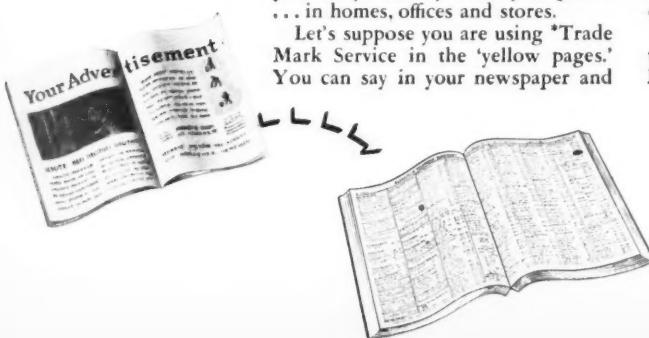
Well, the 'yellow pages' of the telephone directory can do that job for you. They're handy to every telephone . . . in homes, offices and stores.

Let's suppose you are using "Trade Mark Service in the 'yellow pages.' You can say in your newspaper and

magazine advertising that your local dealers are listed in the 'yellow pages' of telephone directories. Then all your prospect has to do is reach for his telephone book.

The 'yellow pages' tell him who sells your product . . . make it easier for him to buy . . . help shorten the distance to a sale.

For more information, call your local telephone business office or see the latest issue of Standard Rate & Data.



*Trade Mark Service means your brand name or trade-mark displayed over a list of your authorized dealers' names and addresses in the 'yellow pages.'

PRODUCTION



IN THE THIRTIES rocket men had to set up in back-country to test models. But . . .



WAR CAME and the German V-2 proved the rocket is a terrible weapon. Now . . .

Rockets Aim at Mass Output

Manufacturers of rockets and rocket engines want to get on a production-line basis. Reaction Motors is close to the goal.

Rockets and their engines—once the hobby of attic tinkerers—have become a big but little publicized business in the U. S.

Over the last few years the Air Force and the Navy have poured millions of dollars into industry for research and development on guided missiles and rocket planes. Today, with the lion's share of the experimental work behind them, the rocket companies are aiming at two goals: (1) to put their product on a production-line basis; and (2) to stay financially solvent while they do it.

• **One That Arrived**—One of the companies that thinks it has just about

reached the goals is Reaction Motors, Inc., of Dover, N. J. Reaction, which makes liquid-propellant engines for rockets, has already had its powerplants used on several record-breaking aircraft and missiles. Among them:

(1) Bell Aircraft's X-1 plane that recently topped the speed of sound "by several hundred miles per hour," according to Air Force officials.

(2) The Navy's Viking missile designed by Glenn L. Martin Co. for flights over 2,250 m.p.h. and for altitudes up to 51 mi.

(3) Douglas Aircraft's Skyrocket, a plane similar to the Bell X-1, now



NO OIL CHANGE! FOR 5 YEARS!

Dow Corning 200 Silicone Fluid Adds Years of Life To Oil Burner Fan Motors



Photo courtesy Breese Burners, Inc.

Bearings of the BRESEE DRAFBOOSTER oil furnace fan motor are lubricated with DC 200 Silicone Fluid to give years of satisfactory maintenance-free service.

Breese Burners, Inc., Santa Fe, New Mexico, manufactures the Drafbooster, one of the best fan motors available for oil-fired furnaces. Years of research and testing are incorporated into the design of this efficient unit and only high grade materials are used in its construction. Breese engineers learned, however, that in spite of well-written instructions, a few customers bothered to change oil each year. After two or three years' use, the oil was so badly oxidized and carbonized that the entire unit had to be replaced.

In 1944 Breese engineers obtained a sample of low viscosity DC 200 Silicone Fluid and subjected it to accelerated breakdown tests similar to those set up for testing the mineral oils Breese had been using.

M. D. Huston, Mgr. Sales Engineering for Breese, had this to say about the breakdown tests: "We found that the DC 200 silicone fluid worked perfectly and showed no signs of oxidation or other deterioration. We immediately put Drafbooster containing DC 200 on lifetime field tests under the most severe operating conditions. A recent check of one unit which has been working since 1944, indicated that the DC 200 Silicone Fluid is still just as good a lubricant as when it was put in. In August, 1948, we standardized on DC 200 Fluid for all our Drafbooster."

For more information about Dow Corning Silicones call our nearest branch office or write for our 32-page booklet 20-D8.

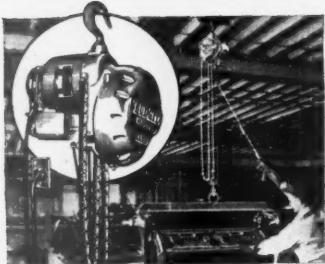
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"My pal!"

That is how a worker speaks of the little yellow 'Budgit' Electric Hoist. It is his pal, for it makes his job so much easier by taking physical effort out of lifting whether it's machines or machine parts on production, assembly, or inspection lines. Production increases, costs decrease. By safeguarding the worker from all danger of sprained backs, torn muscles or ligaments, or a crippling rupture, the little yellow 'Budgit' is again his pal.

By increasing production all over a plant or factory, lowering operating costs, reducing maintenance costs to a minimum, a little yellow 'Budgit' Hoist is a pal to management as well as the worker. 'Budgits' are complete lifting units in themselves. Ready to use the moment they're unpacked, you simply hang them up, plug into the nearest electric socket, and use. Operating costs are trifling.

Why not prove how a 'Budgit' could lower costs, increase production by installing one now?



Made in sizes to lift
250, 500, 1000, 2000
and 4000 lbs. Prices
start at \$119. Write
for Bulletin No. 391.



'BUDGIT' Hoists

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Show-Box" Cranes, "Budgit" and "Load-Lifter" Hoists and other lifting specialties. Makers of "Ashore" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" Industrial and "Microsen" Electrical Instruments.

undergoing Navy shakdowns on the West Coast.

The fact that Reaction has been able to get its engines into these planes and missiles is a feather in its cap. For it's one thing to build a rocket engine; but it's another, much tougher, thing, to get the armed forces to accept it for flight in research ships. Besides Reaction, there are only a handful of other companies that have succeeded. Among them: M. W. Kellogg Co., Curtiss Wright Corp., and Aero Jet Engineering Corp.

• **Complex Business**—One of the main reasons why so few companies have entered the field is the complex nature of the business. It took Reaction the better part of 20 years to get where it is today. The company's roots, in a sense, go back to the time when Lovell Lawrence, now company president, John Shesta, director of research and engineering, and James H. Wyld, chief research engineer, were little more than Sunday hobbyists who wanted to see what rocket propulsion could do.

As members of the American Rocket Society, the three worked on rocket motors propelled by alcohol and liquid oxygen-fuels still in use today. To test their engines they had to start preparations weeks in advance. A test stand and equipment had to be hauled out of town and set up in some remote spot in the country. Then when the time for the run came one of the more daring members of the group would ignite the rocket with a blow torch; it would roar off for a six-second or ten-second run on a test block. After a few trials, the American Rocket Society would pack up and head for home—before the law arrived. For a lot of people in those days felt then that monkeying around

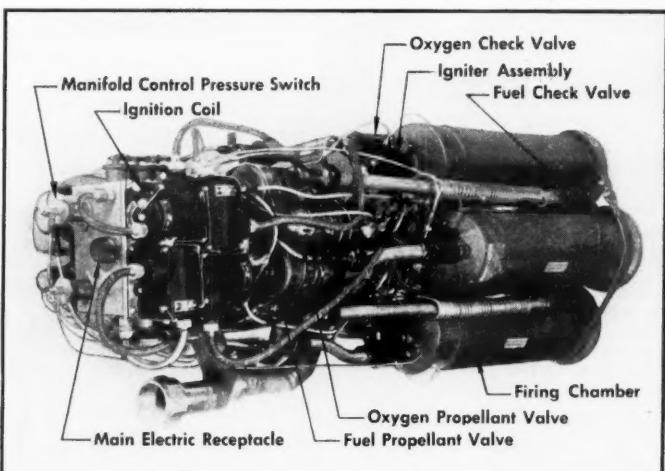
with rockets out of season was neither legal nor patriotic.

• **Conviction**—Lawrence, Shesta, Wyld, and the late Dr. R. H. Goddard of Clark University were convinced that the liquid-propellant rocket engine was a reliable motor that had definite practical applications. They figured that it could be used as an auxiliary power plant for assisted take-offs as well as a main powerplant for aircraft. By 1941, Lawrence, Shesta, and Wyld had become so sure of their theories that, with the prompting of the Navy, they all left good jobs to form Reaction Motors, Inc., at Pompton Plains, N. J. The company set up research and manufacturing facilities in a barn and went to work. Shortly afterwards, the Navy came up with some financial backing.

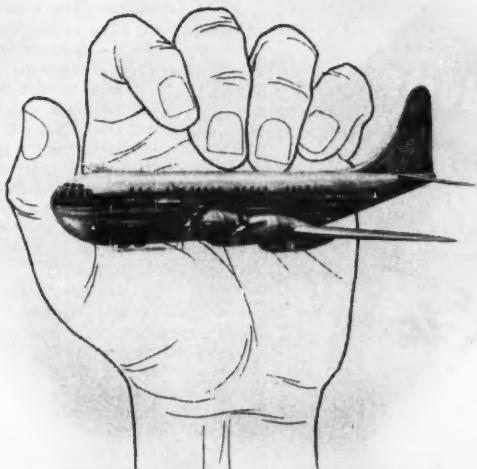
The company's first engine was a 100-lb. thrust regeneratively cooled model. From its success with the engine, the company got a Navy contract in February, 1942, for a series of liquid-propellant engines, ranging from 100-lb. to 1,000-lb. thrust.

By 1946 the sides of the Pompton Plains barn had begun to bulge. But a bigger proving ground was hard to find. Even in a rural area the farmer just over the hill was likely to squawk about the blast-like racket a rocket engine can make. So Reaction asked for, and got, permission to move to the Navy's ammunition depot at Lake Denmark, N. J. Now the company is getting ready again to shift part of its organization into bigger quarters. This time the move will be to Rockaway, N. J.

• **Rough Road**—Even though Reaction has constantly expanded its research, development, and production setups, it has had to travel over some rough



ROCKET ENGINE, built by Reaction, has four cylinders, a thrust of 6,000⁺ lb.



taking its pulse

at 20,000 feet

...the Sperry
Engine Analyzer



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This flight engineer is taking the pulse of a Pan American Clipper 20,000 feet above the Atlantic...logging the performance of its complex power plant. Graph-like patterns on the Sperry Engine Analyzer* are giving him a continuous visual analysis of each engine. Any irregularity in engine performance is detected, located and identified at once . . . and precisely enough to isolate one from among the Stratocruiser's 224 or the Constellation's 144 spark plugs.

■ When he lands, he hands the ground crew a complete work sheet specifying each spark plug, valve, magneto or other part in need of servicing. As a result, maintenance is frequently cut from hours to minutes.

■ With its giant Stratocruiser and Constellation-type Clippers equipped with the engine Analyzer, Pan American estimates that up to 60% of delays caused by power plant troubles can be eliminated.

■ Airline operators can save thousands of dollars annually by supplanting trial-and-error trouble shooting with *electronic trouble shooting* which...reduces maintenance time, tightens departure schedules, lessens over-all passenger transit time and increases aircraft utilization.

■ Pan American is the first airline to install the Sperry Engine Analyzer, the first complete instrument for commercial aircraft to isolate detailed engine difficulties . . . one of many Sperry products designed to aid commercial aviation.

*Trademark, Pan American Airways, Inc.

*Engine Analyzer is manufactured
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Ruggedness—a major factor in motor reliability—is assured in Lamb Electric Motors because of their special engineering.

Every Lamb Electric Motor is specially designed for the product or device it is to drive. This means that both electrical and mechanical characteristics are engineered for the exact requirements of a specific application.

Special engineering, which among other advantages provides ruggedness, is another reason why Lamb Electric Motors are powering more and more of America's finest products.

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Rugged construction is a major factor in the reliability of this motor widely used in the field of mechanized equipment.



Sturdy and reliable, explosion proof construction, helical geared fuel transfer pump motor.

Lamb Electric
SPECIAL APPLICATION
FRACTIONAL HORSEPOWER **MOTORS**

financial ground. A steady diet of government contracts without sufficient initial working capital is sort of hand-to-mouth existence. For a while the company lived from contract to contract and barely made ends meet. Finally, in 1947, Reaction reached the point where it had to get financial and managerial aid—and fast. Again the Navy threw out a line. It helped get Laurance S. Rockefeller to invest in Reaction, and the company was refinanced. It now has enough working capital to expand to handle twice its present backlog of orders. And earnings for 1948 improved decidedly over the lean years of 1946 and 1947.

• **Theory**—The Reaction engines that power missiles and transonic piloted planes work on the same principles as a Fourth-of-July rocket. Both are based on Newton's Third Law, which says that any force is opposed by an equal and opposite force. You can see how this applies to rockets by taking as an example the air in a toy balloon. Here force of compressed air expands the elastic rubber of the balloon. It's a static or inert force; it doesn't do any work. But when you open the nozzle and let go of the balloon it will fly in the air for a couple seconds. The air inside the balloon is pressing against the sides in all directions. When the nozzle is opened the air escapes from the balloon, and the nozzle's restricted opening tends to increase the speed of the escaping air. The effect is to direct a stream of air at a relatively high speed backward, and to thrust the balloon forward.

• **Application**—Inside a rocket's combustion chamber large amounts of fuel burn continuously, and generate gases. The pressure built up forces the gas out through the nozzle of the rocket at high velocities, thrusting the rocket forward.

Present-day rockets, of course, are far from being as simple as their Fourth-of-July counterparts. As rocket engines have developed in the past years, they have become increasingly complicated. Still, despite their complexity there are few moving parts to create friction and waste energy.

• **Mixing Problem**—A rocket engine's operating efficiency increases as its speed increases. This is in marked contrast to the reciprocating engine's waste of 80 gal. out of every 100 gal. of fuel. In practice, though, rocket engines have an efficiency-factor problem, too. Most of it stems from their need for both a fuel and an oxidizer, for you not only have to have a fuel (usually alcohol) to create the thrust, but you must also have some element or compound, called an oxidizer, to supply oxygen to ignite the fuel. (A rocket engine doesn't depend upon the



"BOBBY, YOUR MIDDLE NAME MUST BE 'MUD'!"

"YOU'VE fallen into that mud hole so often, Bobby, that we've got to do something. When Daddy gets home, we'd better ask him to fill it in for keeps."

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One efficient way is to invest in Hardware Mutuals workers' compensation insurance. It not only covers payments to injured personnel, but provides expert help for any policyholder in *correcting the causes of accidents*. As a result, employees are helped to pursue their duties with less worry, they have greater confidence in you, they back you up with

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Hardware Mutuals *policy back of the policy* represents many clear-cut benefits—carefully trained representatives—fast, friendly, nationwide, day-and-night service—prompt, fair claim handling. Also, Hardware Mutuals have returned dividend savings to policyholders every year since organization.

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Get acquainted the new, easy way! Just call *Western Union* by number, ask for Operator 25, and say you'd like the name and address of your nearest Hardware Mutuals representative.

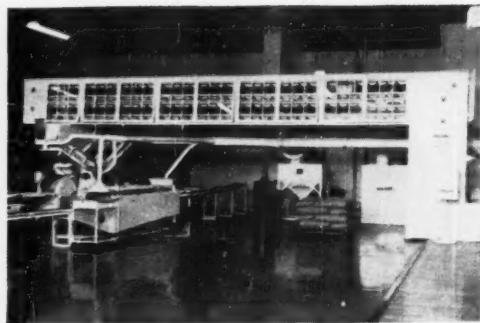
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Bakery solves sanitation problem and reclaims 230 lbs. of flour daily

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And here's how a Phoenix, Ariz., bakery solved the problem. At rear and center of the bakery you see an AAF Type D ROTO-CLONE* and Airmat Arrestor. The ROTO-CLONE removes the flour dust as it is released at the blender, rounder, proofer, molding unit and pan conveyor. The flour dust is collected in a hopper beneath the ROTO-CLONE and the air is then exhausted through the Airmat Arrestor for final cleaning before being recirculated to the workroom.

Results—high sanitary standards maintained continuously at greatly reduced cost and 230 lbs. of flour (formerly a total loss) are reclaimed daily.

Dust is the enemy of all industry. Whether you make bread, chemicals, or castings, ROTO-CLONE dust control equipment can help you improve working standards and reduce maintenance costs. There's a size and type to solve every problem. For complete information, call your local AAF representative or write—

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DUST CONTROL EQUIPMENT

*ROTO-CLONE is the trade-mark (Reg. U. S. Pat. Off.) of the American Air Filter Company, Inc., for various dust collectors of the dynamic precipitator and hydrostatic precipitator types.

atmosphere for its oxygen.) The efficiency of the ignition depends upon split-second timing in the initial mixing of oxidizer and fuel.

• **Fuels**—One of the first problems early rocket engineers had to tackle was a choice between a liquid fuel and a solid fuel. Both had their advantages, but liquid fuels proved definitely easier to control and feed into the combustion chambers.

Once it became popular practice to use liquid propellants for rocket engines, another search began, to find the most efficient fuels and oxidizers.

The fuel part was fairly easy. Rocket engines, like the turbo-jet engines, aren't too choosy about what they burn. Almost any high-energy combustible liquid like kerosene, gasoline, or alcohol will do the job.

Finding the right oxidizer was a much tougher nut for rocket men to crack. They finally hit upon liquid oxygen, even though it had many drawbacks. Liquid oxygen—called lox for short—is hard to handle and store; it boils at a temperature of -297F. And it is constantly in a state of vaporization; that is, it is always changing from a liquid to a gaseous state, although at a moderate rate. Despite the raft of special equipment needed to handle the liquid oxygen, rocket men in the U.S. felt its performance made it the best oxidizer available.

• **Feed Systems**—But once you find the right fuel and oxidizer for your engine you still have to work out a way to feed them into a combustion chamber. For several years the propellants were fed into the chamber under high pressure. This was the simplest of fuel systems. It required no working parts and there was little that could go wrong with a pressure-fed fuel line. But pressure feeding called for fuel tanks that would stand high pressures; and that meant tanks of heavy, high-strength materials.

Later engineers turned to a pump-driven fuel system. They found that, although a fuel pump also meant added weight, it didn't mean as much extra heft as the tanks of a pressure-fed engine.

• **Turbo-Pumps**—Once the pump-driven fuel system caught on it developed rapidly; today it is an integral part of the rocket. Heart of the system is the turbo-pump which pushes the propellant into the combustion chamber.

Reaction Motors has tried a number of ways to run turbo-pumps for rocket fuel systems. One that is used consistently (on the big Viking Rockets, for example) is based on German work with the V-2 and runs by chemical reaction. Hydrogen peroxide is mixed with a manganese dioxide cata-

lyst to produce steam. The steam flows against the impeller blades of the turbine. The pumping mechanism, driven by the impeller, creates enough pressure to force the fuel into the combustion chamber of the engine.

• **Heat and Cooling**—Another stumbling block for early rocket engineers was finding a metal (or a method of construction) that wouldn't melt under the intense heat of the combustion chamber. When the engineers were unable to come up with any one metal that could take the beating, they turned their efforts to finding a way to cool the materials they had.

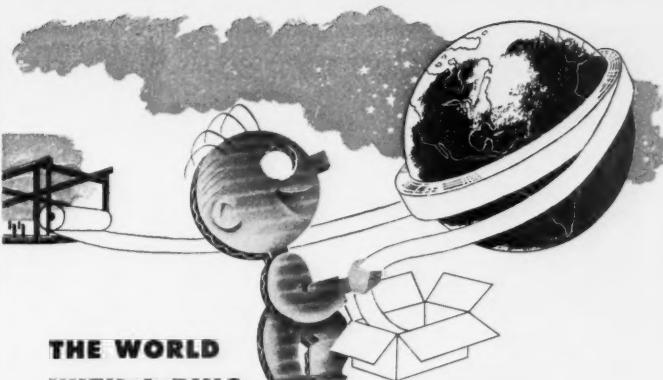
The crux of the cooling problem was to remove the heat from the sides of the combustion chamber as fast as the flame built it up. Early rocketeers in America and Germany tried any number of Rube Goldberg arrangements, but none of them ever worked out. In 1938 James H. Wyld, Reaction's chief research engineer, came up with what is called a regenerative rocket motor; it has since set the standard for cooling the cylinders of rocket engines.

• **Design**—In Wyld's engine, the propellant does the cooling before it feeds into the mixing chamber for combustion. Basically, his combustion chamber consists of a tube held by spacers inside a larger tube. The space between the two tubes runs the full length of the rocket motor, from the mixing and combustion chambers at one end, to the nozzle of the rocket at the other. At the nozzle end, Wyld connected an inlet pipe, through which he fed one of the propellants. This way, the propellant traveled to the mixing chamber through the full length of the space between the two tubes.

Thus, the walls of the combustion chamber were surrounded by the propellant which picks up the heat. The rate of transfer of the heat from the metal wall to the propellant was fast enough to keep the combustion chamber wall at a comparatively low temperature.

With this cooling system the choice of a metal for the rocket was no longer much of a problem. The present alloy is made up mostly of stainless steel, with some aluminum and other metals added.

• **Advances**—Rockets have come a long way from what they were in 1941. You can see that by comparing some of Reaction's earlier models with the rocket engines it is turning out now. The biggest is a 20,000-lb. thrust motor for the Navy's Viking missile, a projectile similar to the old German V-2, for upper air research. Power and speed have been intentionally held down on flights of the missile. But engineers have wound up with better control over the missile—and control in flight is one of their prime objectives.



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FABRICATION RATING												
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
120												
110												
100												
90												
80												



How many ways are there to steal?

IF YOU THINK that tapping the till is still the main way that businesses lose money through employee dishonesty, these typical cases from The Travelers files may open your eyes:

A night fireman in a woolen mill managed to "make" \$4800 extra by tossing bolts of cloth out of the window, picking them up on the way home.

A shipping clerk in a bottling works stole \$14,000 by diluting soft-drink syrup with water to make extra bottles of pop which he peddled from company trucks at night.

A paymaster on a construction project, far from his firm's home office, drew checks totaling \$11,000 (payable to himself) on an operating checking account placed in his trust.

Today, methods of dishonesty, as these cases indicate (and as any policeman can tell you), are limited only by the cleverness of the criminal mind. They're by no means confined to big businesses, and many times schemes for making away with funds are so

involved that it takes a C.P.A. to find them out.

Often amounts taken are enough to send a small business straight to the wall.

What can you do to protect your business from such a crippling loss?

The answer is as simple as it is inexpensive—Travelers Fidelity Insurance. You will be surprised at how little this form of protection costs.

Protect your business against the costly consequences of human frailty now. Your Travelers agent or broker will explain just what you should have for your firm's requirements.

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The Travelers Insurance Company, The Travelers Indemnity Company, The Travelers Fire Insurance Company, The Charter Oak Fire Insurance Company, Hartford 15, Connecticut. Serving the insurance public in the United States since 1864 and in Canada since 1865.

PRODUCTION BRIEFS

Latest in shale-oil research is an experimental refinery at the Bureau of Mines' Rifle (Colo.) station (BW-Jun.11'49, p23). The refinery, built by Refinery Engineering Co., supplements already built mining and retort installations; the new unit will handle 200 bbl. a day.

Dwindling iron-ore supplies have spurred U.S. Steel to recover iron from waste. It plans five plants that will (1) process otherwise useless powdery iron ore from mines, and (2) recover iron from blast-furnace flue dust. Big Steel hopes to get an additional 2-million tons of ore each year.

Electronic scale for weighing livestock at markets has been developed by the Agriculture Dept. The scale is accurate to within 5 lb. on loads up to 16 tons.

Diesel locomotives will be turned out in Canada by a new G.M. subsidiary, General Motors Diesel, Ltd. A plant under construction now at London, Ont., will turn out one locomotive a day.

Designs for lab buildings and equipment used in atomic-energy research will be investigated by Arthur E. Burton, associate engineer of the U.S. Atomic Energy Commission. He has won a fellowship for that purpose from the American Institute of Architects.

Aeronautical turbine lab for the Navy Dept. near Trenton, N. J., will cost \$22-million. Giant blowers, supplied by DeLaval Steam Turbine Co., will simulate altitudes up to 65,000 ft.; temperatures as low as -67°F will be available.

Finished steel parts are now being mass-produced from stainless-steel powders by Amplex Mfg. Co., of Chrysler Corp. The parts can be impregnated with oil to eliminate the need for lubrication.

A conveyor-belt plant is being built by B. F. Goodrich at Akron at a cost of \$5-million. Steel framework for the 150,000-sq.-ft. building is already up.

High-frequency sound waves applied to paints may eliminate later need for stirring. From Sherwin-Williams experiments, researchers think they may be able to get pigments and vehicles to hold together by treatment with sound waves.

A catalytic cracking plant costing \$11-million will be opened in October by Standard Oil of Ohio. That's the first major step in Sohio's \$30-million expansion program at its Lima refinery.



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Neck-bender at Esso

• Standing where the camera stood, you would have to bend your neck back sharply to see the top of this tremendous guy derrick. It is one of three 200-tonners used in erecting the world's largest fluid catalyst cracking plant for Standard Oil of New Jersey. All three were built by American Hoist and Derrick Company.

Can you imagine handling those mammoth, costly cracking towers with any derrick that might *not* hold its rated capacity load? Neither could the contractors. But they knew that any derrick bearing the "American" nameplate will positively perform as rated.

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about 500 lbs. on its 12-in. diameter table. This makes it strong enough to hold refrigerators, stoves, and similar items. Actually, the unit has a maximum load rating of 1,000 lb.—but the manufacturer doesn't recommend continuous operation of the table under such a load.

A friction drive turns the table at a speed of 1 r.p.m. Built-in collector rings allow the showroom designer to connect lights to the items on display. The steel exterior has a light gray finish that blends with most any color scheme. The manufacturer is Macon Machinery Co., Inc., 217 Locust Ave., Port Chester, N. Y.

• Availability: immediate.

Spillproof Swivel

Tip-overs of trailer trucks caused by sharp turns or jackknifing can be eliminated, says Holland Hitch Co., Holland, Mich. The Holland-Apgar Fifth Wheel does the trick.

Like a conventional swivel base, Fifth Wheel mounts on the back of a tractor truck to connect tractor and trailer. As the tractor turns, Fifth Wheel shifts the center of gravity of the load to the inside of the turn. The sharper the turn, the greater the offset of the load. This keeps the load upright at all times and makes the truck trailer more maneuverable.

An anti-jackknife stop on the unit permits a swiveling of 94 degrees. The stop prevents contact between the tractor and trailer when the maximum angle of turn is reached.

The company says a truck adapted to Fifth Wheel can be used with a trailer that hasn't been converted. To use one with the other, you have to cut two slots in the conventional-type swivel of either a tractor or a trailer. This way there's no problem in the gradual conversion of a fleet of trucks.

• Availability: immediate for small quantities.

Mail Handler

Commercial Controls Corp. has introduced an envelope opener and a scaling machine for faster mail-handling.

The MultiOpener automatically opens and stacks thousands of envelopes an hour. The handling speed depends upon the size of envelopes and the ability of the operator. The opener has a cutting adjustment with a dial setting for light, medium, or heavy cuts. A precision feed principle assures cutting the full length of the envelope edge without damaging the contents, the company says.

On the scaling machine, a patented water feed provides a uniform flow of water to the gummed envelope flap. The scaling blade on the machine seals

Air Reduction Co.

Armour & Co.

The Blanton Company

Bureau of Mines, Dept. of Interior

Celanese Corporation of America

Delta Products Co.

E. F. Drew & Co.

Thomas A. Edison Co.

General Mills, Inc.

B. F. Goodrich Chemical Co.

Lever Bros. Co.

Lookout Oil & Refining Co.

Procter & Gamble Co.

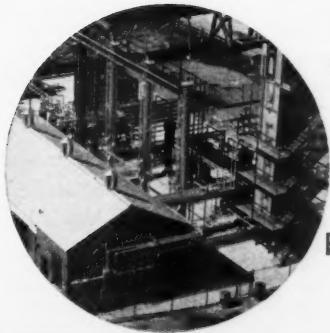
Procter & Gamble Mfg. Co.

Southern Cotton Oil Co.

South Texas Cotton Oil Co.

Mrs. Tucker's Foods, Inc.

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Judge our qualifications
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For instance, take hydrogen, one among varied Girdler interests in gas processes. **Hygirtol* hydrogen manufacturing plants have been or are being put up by Girdler for the top-caliber companies named above.

Employing improvements developed by Girdler of the hydrocarbon-steam reaction and hydrogen purification, these plants manufacture high-purity hydrogen at lower cost than any other commercial method. Designed, engineered, and constructed by Girdler, they illustrate Girdler's complete service—service that has meant *effectiveness with economy* for just about every major industry concerned with a gas or chemical process.

If your business deals with any of the industrial gases, liquid and gaseous hydrocarbons, or organic compounds, you will find it pays to deal with Girdler for that new plant or improvements in the old.

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all standard-size envelopes without getting them dirty.

Self-lubricating bearings in both machines give smooth, quiet operation, while rubber feet hold them securely on the desk. Adjustable receiving hoppers handle different envelope sizes. The maker is at 1 Leighton Ave., Rochester 2, N. Y.

• Availability: immediate.

P. S.

Sealed-beam headlight unit with a specially designed bull's-eye lens uses stray light formerly wasted. Unreflected light from the bulb's filament is picked up by prisms, then projected through the lens. This gives a driving beam of higher intensity than conventional sealed-beam lights, says Electric Auto-Lite Co.

Automatic change-over valve, made by C-O-Two Fire Equipment Co., connects to two pressure tanks of carbonic gas. When one tank becomes empty the valve automatically switches over to the other full tank. There are two models: (1) for soda fountains, tap rooms, and bottling plants; (2) for use in drink dispensers and places where space is limited. The company address is P.O. Box 390, U. S. Highway 1, Newark, N. J.

Plastic covers for chain couplings have been developed by Morse Chain Co., a division of Borg-Warner Corp. Covers are molded of rag-filled phenolic plastic for maximum strength with minimum weight, provide sealed-in lubrication and protection for couplings. The company is located at 310 S. Michigan Ave., Chicago 4, Ill.

Polyvinyl plastic in strip form seals cracks at junctions of walls and bathtubs, washbowls, and shower stalls. This prevents steam and water from damaging walls and woodwork. The B. F. Goodrich-developed plastic is made into this strip form by Kehler Products, Inc., Cleveland, Ohio.

GENERAL FIREPROOFING

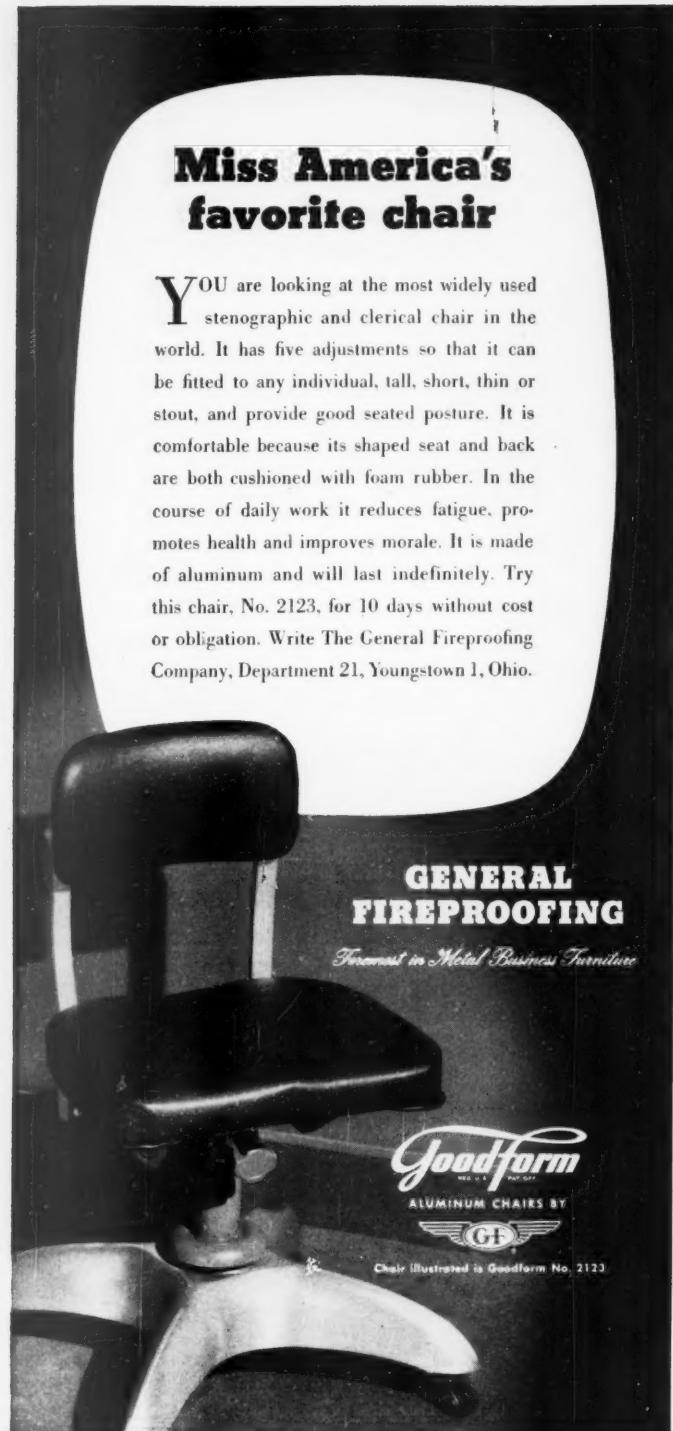
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BUT THAT'S NOT ALL! Pressed Steel Tank Company has a large assortment of tools offering customers unique advantages, and is in an especially favorable position to handle quantity production of parts. We work in a wide variety of metals, and have made Seamless Shapes and Shells with capacities as small as 1 qt. and as large as 110 gal.

If you have a problem that might be solved by a Hackney Deep Drawn Shape or Shell, why not see if our knowledge and over 45 years' experience can help you? Send blueprints and data—no obligation.

Pressed Steel Tank Company

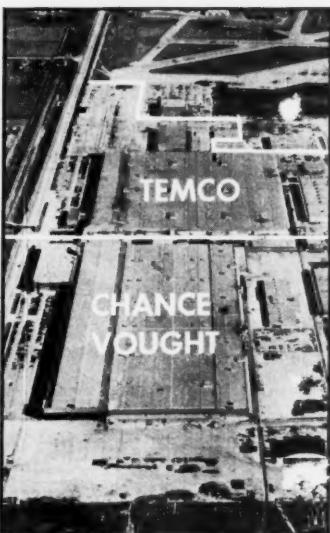
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READERS REPORT:



SPACIOUS AIRCRAFT PLANT near Dallas now has two postwar occupants

One Big Plant for Two

Sirs:

The picture accompanying the letter you published from Chance Vought Aircraft was captioned: "This spacious plant near Dallas is now occupied by Chance Vought Aircraft. It once housed North American Aviation" [BW—Jul. 23 '49, p42].

Actually the photograph shows the entire former North American facility, of which Chance Vought occupies only the B-plant, the B-hangar, and half of the drophammer building. The A-plant, A-hangar, and other half of the drophammer building are occupied by Texas Engineering & Mfg. Co., Inc.

Far from having been dispossessed as suggested by the July 23 caption, TEMCO is enjoying the best year in its history.

With a payroll of over 2,000, TEMCO is Dallas' second largest employer, being exceeded only by Chance Vought in number of employees.

SYDNEY CARTER

TEXAS ENGINEERING & MFG. CO.,
DALLAS, TEXAS

Fluorescent Lighting

Sirs:

Your article on hot- vs. cold-cathode fluorescent lamps points up in a graphic and interesting way the situation facing the industry today [BW—May 28 '49, p31]. However, we feel that it tells only half of a good story, and that the data given on cold cathode should be cor-



Seamless Flanged Shell—14 in. dia., 16 in. high. For use as pressure reservoir.



Case for Oil Submerged Circuit Breaker—11 in. dia., 26 in. high.



Water Tank—in sizes to 60 gal. capacity. For use on concrete mixers and pavers.

West North Central, Mountain and Pacific States spend \$1,818,000,000 for new power

**New Power
for America**

One of a series highlighting the
vast expansion program of the
electric utility industry

Post War Installations of
C-E STEAM GENERATING UNITS
Completed or now in process for
West North Central, Mountain
and Pacific States

CENTRAL ARIZONA LIGHT & POWER COMPANY
Central Arizona Steam Electric Station

IOWA POWER & LIGHT COMPANY
Des Moines Power Station No. 2

IDAHO PUBLIC SERVICE COMPANY
Maynard Station

KANSAS CITY POWER & LIGHT COMPANY
Grand Avenue Station
Hawthorn Steam Electric Station

KANSAS GAS & ELECTRIC COMPANY
Ripley Steam Electric Station

THE KANSAS POWER & LIGHT COMPANY
Hutchinson Power Station
Riverside Station
Tecumseh Power Station

MISSOURI POWER & LIGHT COMPANY
Mexico Power Plant

MISSOURI UTILITIES COMPANY
Oran Station

NEBRASKA POWER COMPANY
South Omaha Steam Electric Station

NORTHERN STATES POWER COMPANY
Black Dog Steam Station

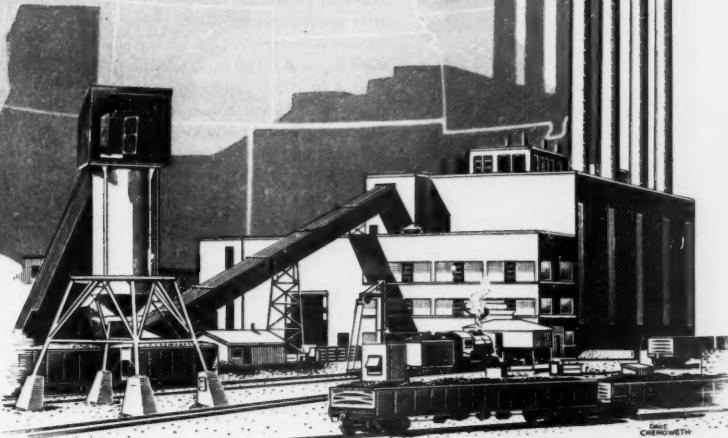
NORTHWESTERN PUBLIC SERVICE COMPANY
Mitchell Power Station

THE OTTER TAIL POWER COMPANY
Devil's Lake, N. D.
Hoot Lake Station
Jamestown, N. D.
Ortonville, Minn.

PACIFIC GAS & ELECTRIC COMPANY
Contra Costa Steam Plant

SOUTHWESTERN PUBLIC SERVICE COMPANY
Clovis, N. M.

WESTERN LIGHT & TELEPHONE COMPANY
Concordia, Kansas
Dodge City Power Station



DIST. CHROMOGENIC

"I don't know how they do it" was the remark attributed to a top Government official in commenting recently on the amazing achievement of privately-owned utilities. Barred by war-time restrictions from normal expansion of generating capacity during the war years, the utilities have not only kept pace with rapidly mounting post-war requirements but at the same time have carried through a program which by 1951 will have increased total utility capacity by 50 per cent. In other words, the capacity added in a period of six years will be equivalent to half that attained in the preceding 60-year history of the electrical industry.

Truly it may be said that no accomplishment in the annals of American industry exceeds in magnitude or importance this post-war achievement of our privately owned utilities.

Almost equally noteworthy is the fact that the average price of a kilowatt-hour the

country over in 1948 was less than in any preceding year. Even with the moderate increases recently put into effect or now pending, electricity will still be priced at less than pre-war figures — a statement that can be made with respect to no other important commodity. Thus it is that electricity continues to be America's greatest bargain.

Typical of the vast power expansion now in process throughout the nation is the program of the West North Central, Mountain and Pacific States. By the end of 1949 this region will have spent nearly two billion dollars for new generation, transmission and distribution facilities.

In this area, as in others, Combustion has played a major role in supplying steam generating units for new power projects—having been selected to furnish units that will service turbine generators with a combined capacity of more than 800,000 kilowatts. B-333



COMBUSTION ENGINEERING— SUPERHEATER, INC.

A Merger of Combustion Engineering Company, Inc. and The Superheater Company

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Company _____

Address _____

rected with news of the latest developments.

To bring you up to date, let's start with a fairly recent installation (the one shown in your photograph was put in about eight years ago, and is performing beautifully with very little maintenance):

As concerns cost, the over-all cost of packaged cold cathode, in which a single transformer lights one, two, or four lamps, and series cold-cathode installation, in which one large transformer lights as many as 12 eight-foot lamps (arranged in a chain with no wiring between); compares favorably with any similar hot-cathode installation.

Next, the difference in efficiency between hot and cold cathode of the same size is due to difference in energy consumed at the electrodes (ends of lamps) and this difference is only of the order of 5%.

Other points which were not mentioned:

Cold-cathode lamps are low-brightness sources which can be used for almost all conditions without shields to reduce glare.

Cold-cathode lamps can be dimmed.

The life of cold cathode is rated conservatively at 10,000 hours, although installations have been operating for more than 20,000 hours without lamp replacements. This means that for normal operation, cold-cathode lamps need be replaced only once every five years.

B. F. GREENE

FLUORESCENT LIGHTING ASSN.,
NEW YORK, N. Y.

Sirs:

. . . Cold cathode is definitely in the mass-production field now. Package units with standard lamps have been installed in many places. For example, Baltimore schools have approximately 4,000 cold-cathode lamps in service. . . .

EUGENE S. WEST

CHIEF ENGINEER,
CATHO-LITE CO., INC.
BALTIMORE, MD.

Sirs:

. . . The picture you published in your excellent article inferentially is credited to the Luminad Corp., San Diego. This is a picture of a cold-cathode installation made by us for Webster-Brinkley Co., Seattle, in 1940.

G. K. COMSTOCK

PRESIDENT,
ELECTRICAL PRODUCTS CONSOLIDATED,
SEATTLE, WASH.

Sirs:

. . . Exception is taken to the article as published.

Referring to transformers, the article says: "The hot [cathode] needs them to step up or step down the 120-v. circuits



An adhesive does it!

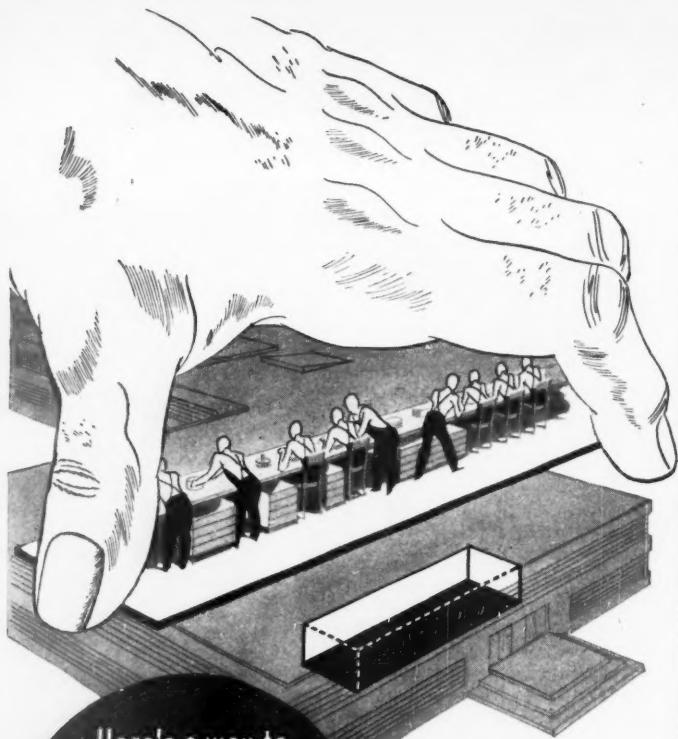
Most people never dreamed of cementing together some of the things that are now being joined with Armstrong's Adhesives. On this page, for example, are pictured a few of the varied uses to which modern adhesives can be put. Other applications, equally stirring to the imagination, will come as fast as industry discovers the remarkable results that can be achieved with the right adhesives.

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Call on us even if what you'd like to do seems far-fetched. Armstrong chemists have some interesting things up their scientific sleeves, as a glance through their notebooks would prove. One of their adhesive inspirations may open the way to the improvements or economies you are seeking. Call or write the Armstrong Cork Co., Industrial Adhesives Dept., 4908 Reservoir St., Lancaster, Pennsylvania. Available for sale to export markets.



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without
permanently increasing
capacity**

right into your manufacturing picture. Immediately any part, or all, of 1500 machine tools and 400,000 square feet of floor space will be added to your own production facilities.

And you'll get your products, or parts, right—and right on schedule—for we are specialists both in job shop work and mass production. Whatever you may name—from typewriters to differential analyzers, from food machinery to grinders—we have had some part in its design and production.

For a fast tour of Taft-Peirce, via the picture route, write for your copy of the illustrated booklet "Take It To Taft-Peirce." The Taft-Peirce Manufacturing Co., Woonsocket, R. I.

For Engineering, Tooling, Contract Manufacturing—

TAKE IT TO TAFT-PEIRCE



to meet the requirements of the particular lamp; cold lamps rely on transformers to build up voltage to a range of 600 v.-15,000 v. per circuit that they use to operate." The fact is that both types use transformers to step down the amperage, and both types use the transformers to step up the voltage. The cold cathode reduces the amperage to about one-third of that used by the hot cathode. It increases the voltage by about 150-200 volts per lamp. It is only in a chain or series installation that the higher voltages are used, as for example, when 12 lamps are run in such a chain series, the voltage is then raised to 12,000 volts. Since cold-cathode transformers are mid-point grounded, the maximum voltage to ground from a 12,000-volt transformer is only 6,000 volts top.

The article says that "most makers of cold-cathode lamps have had tough sledding lately." They have always had "tough sledding," but cold cathode has not suffered any more than any other industry in the current "disinflation" period. The industry at large has shown a tremendous advance since the end of the war.

The article says that cold cathode "lights at only 150C, compared with 950C for the hot-cathode lamp." This is inaccurate. Cold cathode lights at any temperature from sub-zero up, whereas hot cathode definitely requires a temperature of approximately 950C in the cathode to light. It would have been correct to say that cold cathode operates with its cathode at about 150C, whereas hot cathode operates with its cathode at about 950C.

The article is biased because it gives the usual specific boosts, by name, for General Electric, Westinghouse, and Sylvania Electric Products. The article winds up by telling where the "big operators" recommend the use of cold cathode. It does not mention where we think hot cathode should be used. It states that Sylvania has "said this week that it had upped the life of its hot-cathode tubes to 7,500 hours." Cold-cathode lamps have operated at satisfactory efficiencies in some cases for as long as 20,000 hours.

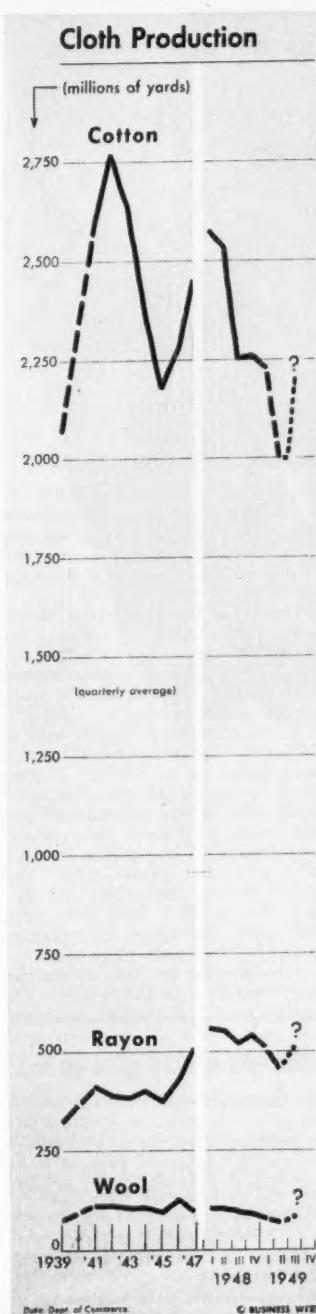
VICTOR H. TODD

PRESIDENT,
SWEDISH IRON & STEEL CORP.,
NEW YORK, N. Y.

• We checked the experts. Before the article was published, the subject was very thoroughly discussed with hot-cathode, cold-cathode, and independent lighting authorities.

We cannot agree that BUSINESS WEEK was biased in the lighting story. If we were biased in favor of hot-cathode people, we would not even have attempted to write about the cold-cathode competition. Many industrial and trade papers sidestep the direct issue. We did not.

MARKETING



Textile Upswing Begins

The textile trade is sure that it will recover half or more of the production it has dropped since 1948. Woolens, the last to be hit by the slump, are the first to snap back.

Textiles have made the turn. That's the phrase going the rounds of the cloth and garment trade. August will probably show the first over-all advance in textile output since the downtrend set in almost a year ago (charts).

• **Two-Thirds Recovery?**—How much ground will textiles recover? About a half or two-thirds of the production they lost this year from 1948 levels is the betting in the trade. That will depend in part, of course, on what happens to business in general. And there are some textile men who think that the industry won't get back to its previous heights until soft goods reclaim the share of the consumer's dollar they have lost to automobiles, home construction, and house furnishings.

For evidence of the current turnaround, however, the trade points to these happenings:

American Woolen Co.'s expected price slash late last month (BW-Jul.30 '49,p.24) brought apparel men back into the fabric market. They are shopping for cloth that will go into their 1950 spring lines.

New York's Worth Street felt a strong outburst of demand for a wide variety of cotton goods last week. That includes heavy bookings for sheetings and print cloths over the months ahead.

Industrial Rayon Corp. doubled production of knitted underwear fabric last week at its Covington (Va.) plant.

These signs—and a host of similar ones—have just about convinced the textile makers that they're through the worst part of their readjustment.

• **Better Than Usual**—Actually, textile markets usually pick up at this time of year. Prewar, this seasonal recovery took place as manufacturers turned out more goods to meet expanding autumn retail sales. But this pickup is more than a seasonal upturn.

• **Inventory Drain**—Here's what has been happening in the last six months to perk up current demand. Cloth production and prices have been falling while retail consumption of textiles has been holding fairly steady.

Dollar retail sales of apparel and textiles, for example, have been running only about 5% below 1948 levels. Prices have fallen enough since a year ago

(charts, page 52, page 54) to account for that. The price cuts showed in the reappearance of special clearances, more goods in low-end lines, improved quality without increased price. That means that the actual volume of textiles consumed has been just about the same as last year—maybe even a trifle larger. And with textile production anywhere from 15% to 30% lower than last year, it means that inventories have been used up all along the distribution chain.

Converters, apparel makers, and retailers can't live on inventory forever. So now, continuing demand for textile products at retail is producing orders at almost every level of the industry.

• **Differing Patterns**—No two branches of the variegated industry have followed exactly the same pattern in recent months. In a few lines, as a matter of fact, output is still on the decline.

I. Wool

Textile output staged an upturn first in the wool industry. And ironically enough, this industry's prices were the last of the three major branches of textiles—wool, cotton, rayon—to turn down.

Wool cloth output hit a low point last April; at that time it was 50% under April, 1948. By midyear, production had come back somewhat from the second-quarter lows (mainly on the strength of demand from women's wear makers), but much of the pickup was merely seasonal.

Then came American Woolen's price cuts (averaging about 10%) in cloth for both women's and men's wear. The company gave two reasons for the cuts: (1) lower raw-wool prices, and (2) a desire to stimulate demand.

• **Raw-Wool Prices**—Prices of wool goods had made virtually no retreat until American Woolen's announcement—despite heavy dumping of excess merchandise in secondary markets earlier this year. Raw-wool prices have been partly responsible; although the lower grades have declined in price, finer wools for use in worsteds have held up pretty well. World demand (some of it from Russia) for the fine wools has been strong.

But don't expect men's wear prices



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to take a dip because of the American Woolen cut. Men's wear makers have already discounted most of the effects of the decrease.

• **Clearances**—Demand for men's clothes first began to dry up a little over a year ago. First sign was the rash of special clearances, particularly in the low-price brackets, that broke out last winter. These price cuts rested solely on the shoulders of the retailers, who narrowed margins and made special purchases of distressed merchandise to cut prices to the level of customers' pocketbooks.

The next move came from the manufacturers. They saw that, in order to sell their men's wear to the stores, they would have to trim next spring's prices. So they clipped off about \$2 to \$5 a garment. Then American Woolen cut wool prices; that made the retailers think that there might be additional cuts in men's wear for 1950. The manufacturers are telling them, however, that they can't cut much farther. The latest reduction in cloth allows only \$1 to \$2 leeway in the price of retail clothes. It's a pretty good guess, though, that both manufacturer and retailer will find a way to trim prices—at least a little—if the goods don't move.

• **Inventories**—However, while the new price cut won't stimulate a big expansion in apparel sales, consumption of inventory in the last six months has paved the way for a pickup in manufacturing. Dollar sales of men's clothes have fallen only 5% to 10% behind 1948, and markdowns and clearances account for most of that decline. But production of woolen suits, coats, trousers, and other garments was off 25% in the first quarter. And output of woolen fabric for men's clothes slid off a full one-third late in 1948 and in early 1949.

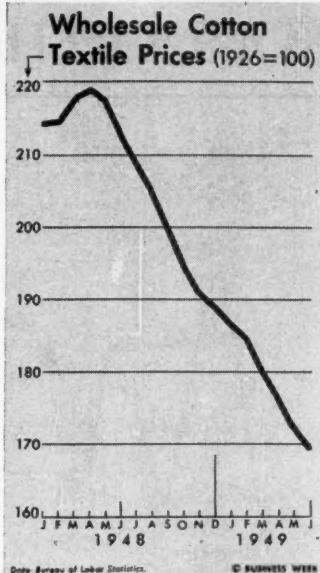
Plainly, then, inventories were used up all along the line: Cutters and middlemen got rid of excess cloth stocks to make suits and coats. And clothiers and retailers sold off much of their apparel inventories to retail customers.

But in spite of the recent price slashes, not everyone is happy. A good many garment cutters are still not satisfied that wool cloth prices have hit the bottom.

II. Rayon

Rayon manufacturers—both weavers and yarn makers—stand the best chance of regaining their 1948 production peaks. There are a couple of reasons: (1) their markets are relatively stable, and (2) rayon is gaining in competitive use with other textiles. This year's dip in output, incidentally, was the first since before the war (BW-Mar. 12, '49, p76). Until this year, output rose just as fast as new capacity came into operation.

What's more, rayon's bottom really



Source: Bureau of Labor Statistics.

© BUSINESS WEEK

wasn't very low. Output of 100% filament yarn dipped about one-fourth. Weavers curtailed operations less than that, meanwhile consuming their own yarn stocks. And makers of rayon garments barely cut back at all.

One rayon product, tire yarn, hit new peaks—at the expense of cotton. And rayon made new gains over both cotton and wool in men's summer apparel. Now rayon is set to invade the heavy-weight clothing field.

Rayon prices have dropped between 25% and 40% since last fall, but they have firmed up in the last 30 days. Some factories are even reported selling in secondary markets at premiums above mill prices. That shows that considerable demand has revived from the dress, underwear, and other trades. Yarn prices, however, have been cut back only 5% to 10% (late this spring) and rayon still enjoys a competitive price advantage over cotton yarns.

(Use of nylon for cloth, incidentally, is growing by leaps and bounds. This year it's some 50% over last. But there's still only about 5% as much nylon cloth produced as rayon.)

III. Cotton

Cotton goods markets didn't feel the turn until a couple of weeks ago. For example, it was only on the last trading day in July that print cloth rose fractionally after weeks of price stability. Fractional advances have been made on other types of cotton fabrics in the last few weeks.

• **Prices**—Cotton price averages hit the bottom at midyear, after a slight slide

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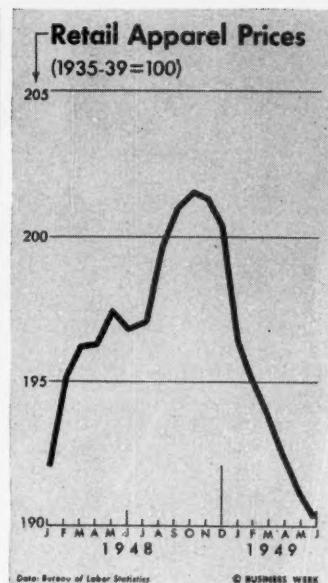
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during late spring. That bottom depends mainly on the price of raw cotton (which makes up about 50% of fabric's costs), and the price of cotton sits on a government price support. That has kept raw fiber prices fairly steady at 32¢ to 33¢ all this year.

Raw material costs aren't likely to dip, because the new support for the next crop year will sustain much the same level. Moreover, wage costs have been holding fairly steady, and by now mill margins have been trimmed very fine.

• **Production**—Cotton-cloth production, which has been climbing for about three weeks, will probably go even higher by year end. But it's not apt to set any records or beat last year. One reason: Foreign markets, which absorbed some 15% of total U. S. output in 1947, half that much in 1948, are continually being trimmed by the world dollar shortage.

Another reason: Part of early 1948's production went into inventory building. But no one is very anxious to increase stocks substantially now.

These limiting factors don't worry the mill men too badly. They're glad just to be getting back to a five-day, two-shift schedule after a long period of curtailed operations.

IV. Women's Wear

Women's wear lines have done much better—both production- and saleswise—than men's wear this year. Retail sales have dipped less than 5% in dollars from 1948 figures. And since prices are down more than that, you



Of course, you know that an obsolete machine, even with its low carrying charges, usually costs more to run than a new one. Your treasurer probably knows that, too; but it won't hurt to remind him that the best time to replace old machines is before they are completely amortized on the books. For, an automatic five years old is dangerously below today's Acme-Gridley production standards.

If you have seen new Acme-Gridley Automatics in action, you know that doubled production is not uncommon. Maybe we could help you prove this point for your treasurer—by placing in your hands more case histories of the actual experiences of some of our customers—down-to-earth records of dollars saved with new Acme-Gridley Automatics. Here's a typical example:

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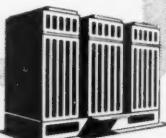
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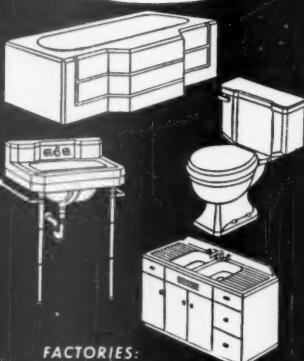
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can see that unit volume is actually higher than last year.

• **Coats and Suits**—The coat and suit division has made the best showing so far this year. Its retail volume has topped year-ago dollar totals. That was because many women were still catching up on the "new look" in these more costly parts of their wardrobes; they couldn't afford complete new outfits all at once last year. Store men offered them other enticements, too, in the form of lower prices and lower-priced lines.

Note, however, that output of wool cloth for women's wear was off 15% to 20% in the first half of 1949. That makes it pretty clear that garment manufacturers have been living off inventories. And that means increased cloth production from now on.

• **Future Volume**—But the coat and suit trade is not overly bullish about coming volume. One reason is that the "new look" stimulus is wearing off. Also, prices have been trimmed a lot already. So garment output will do well to match last year's, which was high, though not up to the 1946 peak.

Dress sales at retail have lagged 5% to 10% behind 1948 in dollars. But with prices down, actual production has run just about equal to last year's, which was up from 1947 but down from 1946. Mills cut rayon cloth production for dresses, however, while cutters and middlemen used up heavy stocks on hand.

V. Postwar Market

Textile men have been arguing for months that simple comparisons of production, population, and income with normal prewar levels all point to a definite production upturn.

The population of the U.S., for example, is almost 15% larger than it was a decade ago. "Real" per capita income (adjusted for over-all price changes) is 40% higher than prewar. That would seem to indicate a market some 60% larger than in 1939.

• **Behind 1939**—The industry pressed upward toward that goal in 1948. At that time, total textile output was about one-third ahead of the 1939 level. Woolens were up almost one-third; cottons were about 25% ahead; rayons had jumped almost 75% ahead of the prewar figures.

This year, however, woolen and cotton cloth output were both actually running below the 1939 level. Only rayon, which has made competitive gains at the expense of other fabrics, is beating its prewar position.

• **High Prices**—Price is the main key to the situation. Even at their current postwar lows, textile and apparel prices have advanced considerably more than the average cost of living since 1939.

There's another consideration, however. Consumption of textiles normally doesn't fluctuate as much from bad times to good years as the rest of the economy. People don't buy a great deal more textile products when their incomes improve.

• **Part Recovery**—This year has shown that the textile industry can't sustain a big expansion of output over prewar days—at least, not in the face of 1948 cloth and garment price levels. It's equally obvious that the 1949 production lows were considerably below the level of "normal" operation.

That's why the industry is looking to recover half or more of the ground it lost earlier this year from the 1948 highs. Barring any major business recession, they have set that as their first target. The new price adjustments might even let the output go a little higher.

Full-scale recovery to last year's figures will be their next objective; that might develop sometime in 1950.

MARKETING BRIEFS

"Travel light" is the theme of a promotional tie-up between Robert Reis & Co. and Pan American World Airways. Pan Am's show windows in various cities will display Reis nylon men's underwear, will direct customers to nearest retailer that handles it.

• **A guarantee against breakage** in lieu of a price cut is Cory Corp.'s new sales lure for its glass coffee makers. The six months' guarantee is good even if you drop the coffee maker.

• **Hawaii's pineapple pack** of 24.8-million cases for the year ended May 31 set a new mark. The Pineapple Growers Assn. says it beat 1947-48 by more than 15%, 1946-47 by some 30%.

• **Newspoint consumption** took an appreciable jump last year. The 525 newspapers reporting to the American Newspaper Publishers Assn. used 1.9-million tons in 1948 as against 1.7-million tons the year before.

• **Newest retail feud** in New York is between R. H. Macy and DuMont Laboratories. In July DuMont franchised Macy's to handle its TV sets. Then Macy's cut prices, and DuMont jerked its franchise back. Macy, however, is advertising that it will continue to handle DuMont sets.

• **Point-of-sale material** put out by brewers and distillers attracts minors, says Pennsylvania's Liquor Control Board. So it has banned exterior brand-name displays on all taverns.



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Discount Battle

Retailers press for cash discounts, which faded out during war. N.R.D.G.A. survey shows slow progress.

High on department-store executives' list of pet hates is the manufacturer who used to grant a discount for paying bills promptly—and doesn't any more.

• **Discount Decline**—Cash discounts flourished back in the days before the war. Then, during the war, the manufacturers got into the driver's seat. One by one, they began to cut back cash discounts and pocket the difference as a little bit of extra margin.

A few cash discounts have staged comebacks since the war's end (BW—Nov. 13 '48, p78), mainly because manufacturers and retailers are back on pretty even terms. But progress has been slow.

• **Survey**—Last week, to help retailers get their discounts back, the National Retail Dry Goods Assn. published its second annual discount survey. From the results, you can see that in many lines merchants are still a long way from the prewar discount structure.

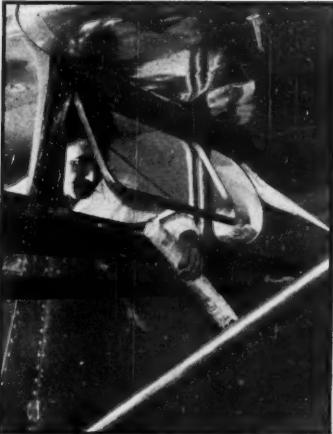
Here are some of the departments that have suffered most from the loss of cash discounts since 1939 (N.R.D.G.A. calculated the discounts as a percentage of the purchases by each department):

• Silks, velvets, and synthetics. In 1939, discounts amounted to 6.86% of purchases; now it's 2.35%.

• Woolen dress goods. Prewar discount:



1 W. H. Rhodarmer (left) helps pilot Stan Moore wrap papers for delivery



2 Moore prepares to drop paper. He hasn't missed a ranchyard yet

Aerial Paper Route

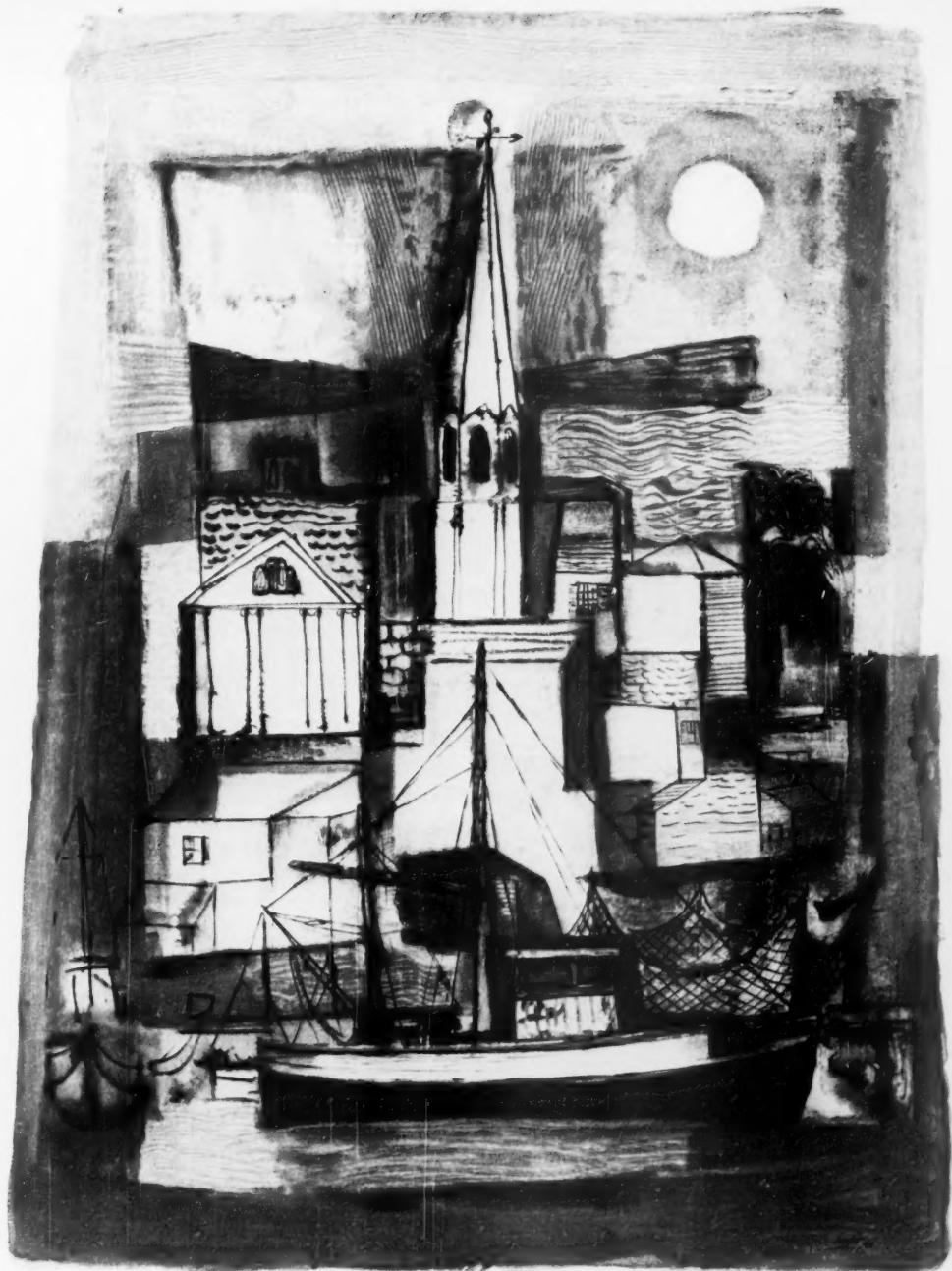
Ranchers along the isolated Colorado-Wyoming border are getting their Sunday edition of The Denver Post from an airborne newsboy.

The "paper plane" service is operated by The Continental Divide Aviation Co. It costs subscribers 25¢ per week for the once-a-week delivery. William H. Rhodarmer, president of the Rawlins (Wyo.) company, started the route last April. Today it covers 400 miles; serves some 100 customers whose homes are often five to ten miles from the nearest neighbor. Rhodarmer hopes to build it to some 500 subscribers soon.

In making deliveries, the pilot buzzes the ranch house to make sure someone sees where paper falls. Then he banks over the ranchyard and drops the well-wrapped paper. Ranchers hang flags on their highest buildings to guide the pilots from one ranch to the next.



3 News-hungry ranchers leave chores as "paper plane" flies low over ranch



Artist — Hazard Durfee, native of Rhode Island

RHODE ISLAND — annual purchases: \$700 million — mostly packaged.

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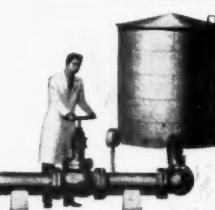


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2.8%; discount at the present time: 0.78%.

- Women's hosiery: From 1.68% pre-war, to 0.15% now.
- Men's clothing: Prewar discount: 5.38%; current rate: 1.96%.
- Men's and boys' shoes: From 4.19% to 2.6%.
- **Exceptions**—In a few cases, however, today's discounts are higher than they were in 1939. For example, the discount on women's and children's gloves jumped from 2.96% to 3.86%. Three other departments—rugs and carpeting, oriental rugs, and linoleum—have had discount increases since 1939 ranging from 0.08% to 0.31%.

These figures, of course, don't mean that all manufacturers of a certain product offer it to department stores on the same discount terms. N.R.D.G.A.'s figures represent the average discount granted by manufacturers.

Actually, discounts on one particular line, say, blankets, range all the way from zero to 10%, with varying periods of time to pay.

• **Discounts Preferred**—Merchants love the cash discount dearly—even to the point where they would rather pay a higher price and then deduct a discount, than pay a lower price, without a discount, which takes the same amount of money out of their pockets. Here's the reason: Retailers add their percentage markups to the invoice price of the merchandise before any discounts have been taken.

• **Case Study**—Suppose, for example, that a retailer buys an item for \$10 with a 4% cash discount. Say the standard markup for this type of merchandise is 33 1/3%; the retailer prices it to sell at \$15. That way, he gets back \$5 in addition to the price he paid for the item—plus his cash discount of 40¢. Thus, he realizes \$5.40 on the deal.

Now suppose the manufacturer doesn't give the 4% cash discount but merely sells the item at \$9.60 instead. Then the merchant adds his 33 1/3% markup to bring the selling price to \$14.40. In this case, the merchant, bereft of his cash discount cushion (and adding his percentage markup to a lower base), realizes only \$4.80 on the deal.

• **Reverse English**—Manufacturers have a pet hate, too. It's the powerful distributor who says, "But we always get a 2% discount. Tell you what you do—just to keep our bookkeeping straight. Add 2% to your selling price, and then we'll take a 2% discount when the bill comes in."

On a \$100 item, that means that the manufacturer bills the retailer for \$102; the distributor, therefore, takes his 2% discount on \$102, or \$2.04. That way, he actually gets the merchandise for \$99.96 instead of \$100. And since he's usually a big customer, too, the manufacturer has to let him get away with it.



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FINANCE



PUBLIC WORKS, like San Francisco Bay Bridge, cost cities a lot—the big reason for . . .

More Revenue Bonds

Trend to municipal revenue bonds grows; they account for about 10% of all municipal securities. But they are supported by single project, aren't usually as good risks as "general obligations."

Tax-hungry cities are putting plenty of chips on municipal revenue bonds nowadays. But even among investors, there's considerable confusion about just what a revenue bond is.

• **Two Things**—In his last report to Congress, Comptroller of the Currency Preston Delano spoke a warning word on municipal revenue bonds.

People tend to put them on the same plane with general obligations, he noted. But they are quite a different breed of cat. Says Delano, "General obligations are inherently on a higher plane of credit soundness" than revenue bonds. That's because general obligations "are supported by the full taxing power of the governmental unit rather than by the net operating revenue of a particular project."

Revenue bonds are closer to corporate securities. In buying them, banks have to remember that their credit soundness is "no better than the fundamental financial and management soundness of the facilities which they have financed," Delano points out.

• **Confusion**—If people tend to lump a revenue bond with a general obligation, you can hardly blame them. Even Webster gets it wrong. The dictionary defines revenue bonds as "a short-term obligation issued by a government, municipality, or other governmental body in anticipation of revenues."

That definition doesn't hold now.

• **Today's Definition**—In today's terms, revenue bonds have two key characteristics:

(1) They are issues—of governmental bodies, subdivisions, or agencies—that are payable solely from revenues of specific income-producing properties;

(2) They are not backed by the full faith, credit, or taxing power of the issuer as are "general obligations."

• **Trend**—The distinction is important—if only because revenue bonds make up such a big part of the municipal bond market, far bigger than they used to. More and more securities are being issued to create publicly owned, income-producing municipal facilities and services. Revenue bonds may account for close to \$2-billion, or 10%, of all municipal securities outstanding.

The trend to revenue bonds shows no sign of slackening. Not even the summer season—usually a slow time for municipal financing—has checked it.

• **Examples**—Thus, on this week's offering schedule were \$20-million of new Lower Colorado River Authority revenue bonds. Last week, \$17-million of this kind of security were sold. Last week's figure included the first public

offering (\$11.8-million of bonds) of a brand-new revenue-bond issuer: the Bergen County (N. J.) Sewer Authority.

Several other offerings—much bigger ones—are in the offing. The State of Virginia has an \$18-million bridge revenue-bond issue about ready for sale. The Port of New York Authority (the nation's biggest issuer of revenue bonds) has a \$54-million offering on tap. And the recently organized New Jersey Turnpike Authority is soon likely to make its debut in the new-issues market with upwards of \$200-million of new bonds.

• **Ancient History**—Revenue bonds are a venerable lot. Even back in the 12th century, there was a sort of revenue bond: obligations secured by revenues from a salt tax. And 18th-century England set up toll-road authorities that had the right to levy tolls and borrow money on the security of such revenues. Later, England organized "boards" or "authorities," which owned harbor facilities, toll bridges, gas works, and the like.

• **Modern History**—In this country, Spokane, Wash., adopted revenue bonds back in 1895 to pay for the expansion of its water system.

But it wasn't until after World War I that U. S. municipal authorities really began to see the possibilities in the authority-revenue bond setup. Once they saw them, they plowed the field.

Today many hundreds of municipal bond issues are outstanding. They are secured, both as to principal and interest, by revenues derived from a variety of operations: municipally operated water, gas, electric light and power, sewage, and transit properties; bridge, tunnel, and highway facilities; airports, docks, and terminals; hospitals; garages and off-street parking lots; public markets, public buildings, and educational and recreational facilities.

• **Advantages**—Why have many public bodies taken to revenue bonds rather than general obligations? Here are some of the reasons:

Legal debt limitations sometimes make more general-obligation issues impossible.

Neither taxpayer nor officialdom is committed, on revenue bonds, to "buying oats for dead horses" if the project turns out to be unable to support itself.

An authority, organized for a specific purpose, can handle projects that the sponsoring government couldn't undertake under its charter.

The facility being financed may be of a type that the government feels (1) should be self-supporting; (2) shouldn't get a tax subsidy; or (3) should be paid for by the users only rather than by the whole tribe of taxpayers.

Voters don't have to O.K. a revenue-bond issue in many areas. Municipal officials find this a convenient privilege at times—when they want to acquire



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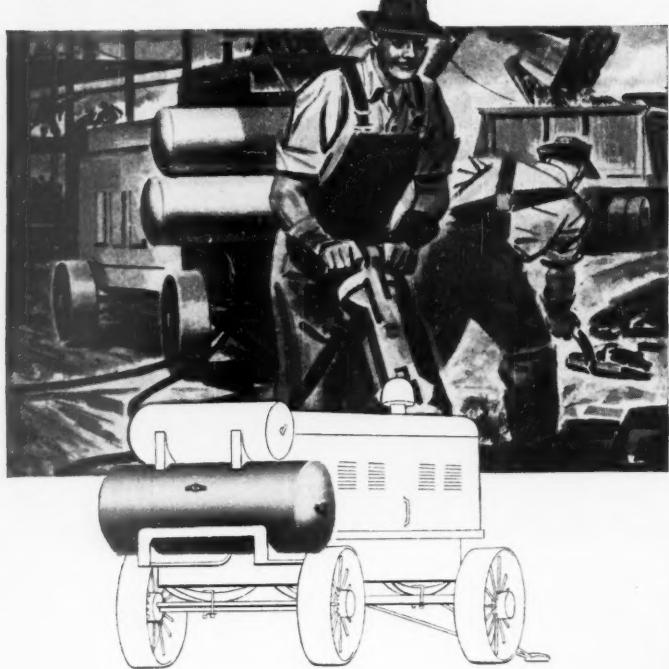
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privately owned electric-power systems, for example.

If the municipal credit isn't too high, revenue bonds may prove easier and cheaper to market—because of the type of facility securing them.

• **Protection**—How is the holder of revenue bonds protected?

Not usually by any mortgage on the facilities, though there are some exceptions to this. The interest and maturity requirements are usually protected by one or another of the following:

- A pledge of the entire gross revenues, or a first lien on gross revenues;
- A pledge of the entire net revenues (gross revenues less operating and maintenance expenses, excluding depreciation and taxes or payments in lieu of taxes)—or by a first lien on this net;
- A pledge of a certain fixed percentage of gross revenues, or a lien on a special fund into which a fixed portion of such revenues must be paid.

• **Tax Exempt**—Normally, there's no tax on income of facilities whose cost of purchase or construction has been financed by the sale of revenue bonds. And the interest paid on such obligations is usually exempt from federal and state taxes.

But that doesn't always hold. Property of the California Toll Bridge Authority, for example, is subject to local taxation (though the state of California pays such taxes). Interest paid

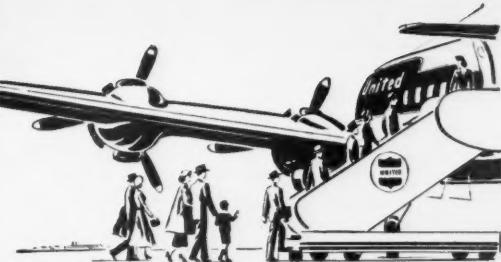


Yale & Towne Chief

Gilbert W. Chapman this week moved up to the presidency of Yale & Towne Mfg. Co. He takes over from Calvert Carey, who resigned because of poor health. Chapman came to the 81-year-old company, which makes locks and materials-handling equipment, as vice-president in June, 1948. Prior to that he was president of American Water Works Co., Inc.

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on the obligations of the Niagara Falls Bridge Commission and of the Dubuque (Iowa) Bridge Commission is also considered taxable, since the acts of Congress creating them made no provision otherwise.

The general tax-exemption goes a long way to explain the revenue bonds' growing popularity with the city fathers. It is especially important in the cases where authorities have been set up to take over privately owned utility properties; taking the utilities off the tax rolls makes for much cheaper operating costs. Tax-exemption also makes for cheaper financing, since tax-exempt securities command lower interest rates.

• **Marketing**—On marketability, most of the large revenue-bond issues rate high. The small revenue-bond issues, however—and there are a lot of them outstanding—are not so easy to trade in, once they are issued, as the average municipal general obligation.

Another marketing point: Certain classes of institutions buy general obligations much more heavily than revenue bonds. In a lot of states, in fact, out-of-state revenue bonds don't qualify as "legal" investments for local savings banks and trust accounts.

• **Differential**—The result is that, as a group, revenue bonds sell at prices well below those for general obligations—though a number of the top-notchers do just about as well. Dow-Jones yield index of representative state and city general obligations closed last week at 2.18%, compared with the 2.43% yield of the revenue-bond average.

FINANCE BRIEFS

New security flotations by corporations came to \$454-million last month—\$64-million less than last July. But for the first seven months of 1949 they totaled \$3.8-billion, which was slightly better than 1948.

Oklahoma has its first \$200-million bank through the purchase of the Tradesmen's National Bank by Oklahoma City's First National Bank & Trust Co.

Second-quarter sales for Celanese Corp. this year tumbled 43% from the second quarter of 1948. That gave profits an even worse jolt—from \$11-million in last year's second quarter, to a mere \$127,000 this year.

Iowa insurance companies writing workman's compensation won't get the 4.2% hike in rates they have requested. What's more, the state insurance department has recommended a cut.



How Allan Pearson might satisfy the curiosity of his 7-year-old son Ronnie. Allan knows the answers. He has worked at Norton for 15 years. In fact, one out of every two Norton employees has more than 10 years' service.



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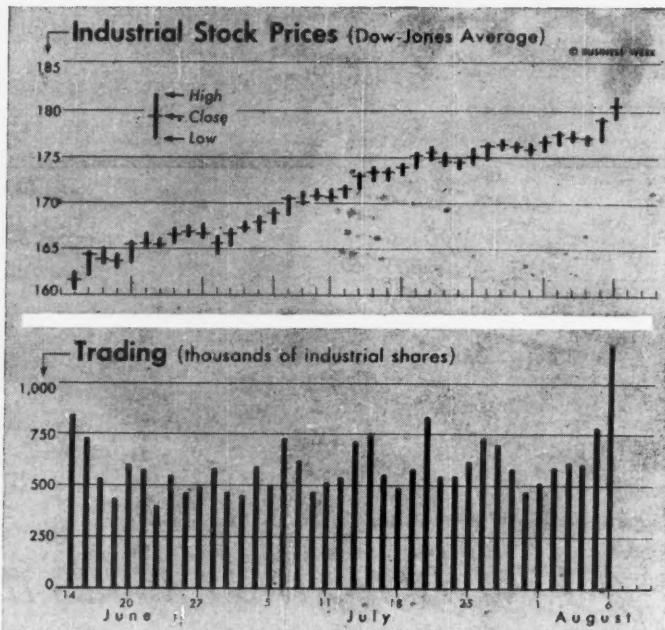
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THE MARKETS



Stocks Just Keep Climbing

With all the signals against them, they persist in the uptrend; D-J industrial average tops its March peak—though rails still lag. Wall Street is divided on whether rise means a real business pickup.

Businessmen and Wall Streeters can't remember another time when the stock market has created such a mixture of good cheer and confusion.

• **Why Up?**—For eight straight weeks now stock prices have been moving up (chart). Is the rise just one of the Street's traditional summer rallies? Is it a response to the Federal Reserve Board's easy-money policy or to board chairman

Thomas B. McCabe's plea for tax reforms favoring risk capital (page 15)? Or is it a confirmation that the current business pickup (page 19) is real?

You could get a "yes" to any of these questions at the corner of Broad and Wall this week. And you might hear another question: Why are stocks climbing now, when they crashed in September, 1946, on the threshold of the greatest peace-boom in history?

• **Signals Crossed**—Even the chart technicians—who generally have an explanation for anything—were confused. But they have been tricked several times in the postwar period.

They got a clear bull-market signal in May, 1948. You know what happened at that time: the bull market went dead right after the signal. On June 13 of this year, the Dow-Jones averages punched through to a new postwar low—a clear bear-market signal. And ever since prices have been going up.

• **Buying Trend**—Until recently, investment buying for income was the main

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	150.6	148.9	143.6	154.7
Railroad	39.0	37.5	35.9	48.0
Utility ..	75.8	74.3	71.4	70.5
Bonds				
Industrial	98.1	99.2	98.2	98.4
Railroad	81.2	80.7	79.9	87.1
Utility ..	97.5	97.4	96.7	94.9

Data: Standard & Poor's Corp.

motivating force behind the current rally. But lately, more "trading" hopefuls have been buying for market profits. The combined buying has been potent enough to send the prices of many stock groups some 10% to 16% above their mid-June levels (box, below).

• **Rails Lag**—Last week the D-J industrial average jumped way above its March high. For chart readers, the rise meant the industrials had met their

share of Dow Theory requirements to establish a bull market. The catch is that the rail average is still lagging behind. Until the rails match the performance of the industrial index, traditional Dow theorists hold that the primary trend of the market is still down.

Many Streeters don't agree. They say the industrials have often climbed faster than the rails for some time without doing any basic damage.

The Summer Stock Rally: Boxscore to Date

Stock Group	Standard & Poor's Weekly Indexes (1935-1930 = 100) —				
	June 15, 1949	Subsequent High	Low	Aug. 3, 1949	Rally Gain to Date
Utility Holding Companies	116.9	136.5 ¹	120.0	136.5 ¹	16.8%
Paper	218.5 ¹	254.7	223.8	254.7	16.6
Air & Transport	201.5	234.9	210.0	231.9	15.1
Mail Order, General Chains	162.8	187.1 ²	166.6	187.1 ²	14.9
Automobile	106.4	121.9	107.4	121.8	14.5
Distillers	249.9	285.4 ³	258.5	258.4 ³	14.2
Lead, Zinc	86.5	97.9	86.9	97.9	13.2
Office, Business Equipment	140.2 ¹	157.4 ³	141.0	157.4 ³	12.3
Shipbuilding	157.2 ¹	175.7	164.4	175.7	11.8
Fertilizers	189.3 ³	210.5	193.9	210.1	11.6
Leather	58.9 ¹	72.3	58.9 ¹	65.6	11.4
Printing, Publishing	98.1	110.5	102.5	109.3	11.4
Soft Drinks	108.9 ¹	121.6	109.9	121.2	11.3
Building Materials	101.0	112.2	102.6	112.2	11.1
Textiles	193.3	214.3	200.0	214.0	10.7
Food Chains	181.0	200.1 ²	183.5	200.1 ²	10.6
Auto Parts, Accessories	96.5 ¹	106.8	98.6	106.7	10.6
Copper	99.0	109.4	99.2	109.4	10.5
Finance Companies	97.0	107.0 ⁴	97.1	107.0 ⁴	10.3
Steel	104.6 ¹	115.9	105.4	115.3	10.2
Coal	190.9 ¹	210.2	194.3	210.2	10.1
Consumer Goods	115.3 ¹	126.8 ³	116.9	126.8 ³	10.0
Machinery	97.3 ¹	106.8	98.6	106.8	9.8
Soaps, Vegetable Oils	126.2	138.3 ³	125.0	138.3 ³	9.6
All Industrials	115.6 ¹	126.6	117.2	126.6	9.5
Low-Price Common Stocks	102.4 ¹	112.0	105.6	112.0	9.4
Capital Goods	103.4	112.9	101.9	112.9	9.2
Household Supplies	89.2 ²	98.0	89.6	97.4	9.2
Oil	148.4 ¹	161.8	150.3	161.8	9.0
Department Stores	178.6	194.3 ²	181.4	194.3 ²	8.8
Composite & Index	110.7 ¹	120.3	112.0	120.3	8.7
Agricultural Machinery	108.0	120.4	108.9	117.3	8.6
Chemicals	121.9 ¹	132.1 ³	124.4	132.1 ³	8.4
Electrical Equipment	87.3	94.6	86.3	94.6	8.4
Sugar	79.7 ¹	86.2	81.1	86.2	8.2
Mining, Smelting	70.3 ¹	76.0	70.4	76.0	8.1
Tires, Rubber Goods	157.0 ⁴	170.6	158.8	169.6	8.0
High-Grade Common Stocks	108.7	117.2	109.9	117.2	7.8
Dairy Products	172.4	185.9 ³	172.4	185.9 ³	7.8
Glass Containers	92.4	99.6 ³	91.7	99.2	7.4
Confectionery	112.2	120.2 ³	112.8	120.2	7.1
Tobacco Products	81.7	87.5 ³	82.4	87.5 ³	7.1
Se-10c-\$1 Chains	123.5	132.2 ³	126.1	132.2 ³	7.0
Meat Packing	106.5	113.7	105.7 ¹	113.7	6.8
Railroad Equipment	74.8 ¹	80.0	75.3	79.5	6.3
Baking, Milling	151.2	160.5	151.3	160.5	6.2
Natural Gas	167.3	177.4	166.2 ³	177.4	6.0
Metal Fabricating	92.5	99.0	93.8	97.7	5.6
Shoes	106.9 ¹	112.8 ³	109.1	112.8	5.5
Railroads	87.0 ¹	92.0	87.4	91.7	5.4
Gold Mining (U.S.)	65.1	68.5	64.8	68.5	5.2
Motion Pictures	143.9	151.7	147.1	150.9	4.9
Shipping	359.6	375.2	360.2	375.2	4.3
Utility Operating Companies	97.1	101.3 ³	96.8	101.3 ³	4.3
Drugs, Cosmetics	99.7	103.7	100.2	103.6	3.9
Aircraft Manufacturing	96.8 ¹	102.1	99.5	100.2	3.5
Telephone, Telegraph	87.4	90.1	87.3 ³	90.1	3.1
Metal Containers	70.5	72.8	71.0	72.3	2.6
Radio Broadcasting	112.9	118.2	108.7 ¹	114.0	1.0
Television, Electronics	122.2	125.2	115.0 ⁴	120.1	1.7 ³

¹1949 Low. ²1949 High. ³Loss.



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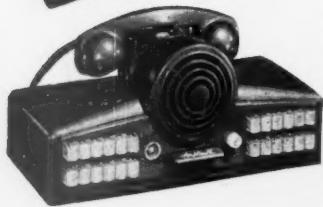
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LABOR



VOTING WORKERS at Ford cast ballots on strike authorization. Outcome is . . .

Test of Ford's Campaign

Motor company has staged major drive to sway workers from a strike vote. Only if week-end ballot count showed majority of under 75% for a walkout, can campaign be considered a success.

Here's how to appraise the results of the Ford strike vote when you get the news this week end:

- If a majority of the workers voted against striking, it would confound every forecaster and be the biggest blow to union morale since the C.I.O. lost the Little Steel strike in 1937.

- If the vote to strike was held within a 75% majority, the Ford Motor Co.'s unprecedented campaign to influence its employees against striking must be considered a success.

- If the vote to strike ranged between 75% and 90%, the outcome will have been just about what you might have expected before the company decided to slug it out with the union on the public-relations front.

- If the vote to strike topped 90%, the company's anti-walkout campaign must be looked on as a boomerang.

- **Odd Contest**—That's a summary guide for scoring the most unusual contest in this fourth round of wage negotiations. It started when Ford management decided to compete with the United Auto Workers for support of its position on 1949 wages.

In the past, these worker campaigns have been almost uniform failures but

Ford thought that this time it had an unusual edge. Its workers had been idle for almost a month during a strike in May; presumably some would be cool to the idea of another walkout so soon. On that basis, Ford officials put just about everything they had into their opinion-molding program.

Company people made no claims that they could turn a traditional tide; they only hoped they could. In any event, they did think they might develop enough anti-strike sentiment to make officials of the U.A.W. think twice before they ordered out 115,000 hourly employees. (Detroit figures a vote of less than 75% for a strike would give the U.A.W. plenty of food for thought. The auto union, though, predicts a 90% vote in favor of a walkout.)

- **Beginning**—The company's campaign to swing workers over to the anti-strike side began when contract negotiations started. At that time Ford statements carefully defined the company position: no raises, either direct or in fringes. The idea, of course, was to bank down expectations of big raises promised by union leaders. The Ford line was spelled out in detail in subsequent issues of Rouge News, company paper for 65,273

hourly employees at the Rouge plant.

- **Change in Tack**—Until about two weeks ago, the Ford campaign followed one tack: defining the company's bargaining position. After the strike vote was scheduled by the State Labor Mediation Board, the drive turned toward arousing sentiment against a walkout.

The Rouge News carried most of the campaign load. In editorials, the paper stressed that every employee should vote; that "the question is not one of voting for or against the union"; and that "a vote against a strike is a vote for steady jobs and security, while a vote for a strike is a vote for needless hardship."

The paper went on to explain why the company opposed a wage raise. Higher labor costs, it said, would mean increased prices, fewer sales, fewer jobs. And it sounded this note of warning: "Production schedules for the months ahead are already being cut back. Lay-offs in the automobile industry in the near future are inevitable. Higher costs and prices would only hasten cutbacks and layoffs."

Workers were also warned that a "successful strike vote usually—though not always—results in a strike," even though union leaders say "the real reason for a strike vote is simply to strengthen [a union's] position at the bargaining table."

The auto union snapped back with pamphlets maintaining that a large pro-strike majority was essential for union negotiators to function at their best.

- **Final Round**—Another round started last week end before the strike vote began. Rouge News led off. It reiterated earlier points and said that: (1) Ford was in favor of high wages, but this was not the time for another advance; (2) higher costs would set up a sequence of higher prices, fewer sales, and fewer jobs; and (3) it was "poppycock" to say that an antistrike vote would weaken the union.

Full-page ads also ran in Sunday editions of the three Detroit papers, addressed "to the men and women of Ford Motor Co." The economic and contract positions of the company were gone over again. A strong effort was made to undercut union strategy with the statement that "it is the apparent hope of union leadership that you will vote yourself into another long strike."

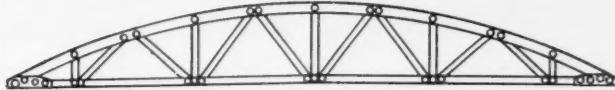
At the same time, the company also made a vigorous attack on the mechanics of the vote itself. In telegrams to the state board and Michigan's pro-labor Gov. Mennen Williams, Ford officials criticized the location of Rouge polling places. They felt it unfair that polls were adjacent to union headquarters, where loudspeakers urged a pro-strike stand by the voter. Ford attempted to get state supreme court intervention on this issue, but had no success.

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Take another look at wood... for today, it's a brand new material. Rilco engineering has made it stronger, more versatile, easier to work with than ever before. Rilco leads in glued-laminated wood fabrication of light and heavy rafters, arches, and trusses—designed by specialized structural engineers. These pre-engineered framing

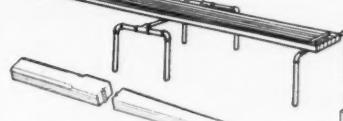
members build wide post-free buildings such as factory and production buildings, warehouses, auditoriums, etc. They come to the building site precisely fitted and drilled—ready to put up. They save hours and days of erection time. They make sturdy buildings that need no inside supporting posts... give you more flexible and usable space.



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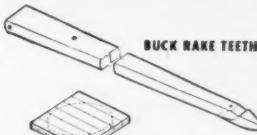
DIVING BOARDS



WAGON TONGUES



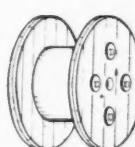
BUCK RAKE TEETH



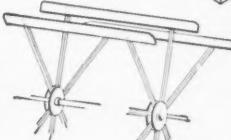
LAMINATED LATHE BILLETS



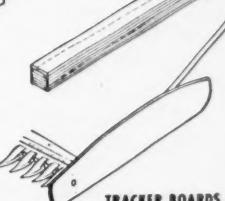
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The strength and easy workability of wood has always saved time and production money for scores of industries. And today the new science of glue-laminating is breaking down the barriers of size and shape... putting wood to use in dozens of new, imaginative ways. In addition to the diving boards, wagon tongues, cable reels and binder reel bats as shown in the

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The next Clues Section will appear in the Aug. 20 issue.

Wage Cuts

Zinc workers at Eagle-Picher Co. ended a 5-week strike by taking big pay cuts. Reason: slump in zinc prices.

Miami, Okla., employees of the Eagle-Picher Mining & Smelting Co. bowed to the economic facts of life this week. Their A.F.L. union signed a new contract with the firm at wage rates substantially lower than before. That ended a five-week strike—with pay cuts ranging from 16¢ an hour for miners to 30 1/2¢ an hour for top-rated machine operators.

• **Background**—The contract was the second in the depressed zinc industry to lower wage rates. The first, in May, slashed wages at the East St. Louis Smelting & Refining Division of the National Lead Co. The union there—C.I.O.'s Mine, Mill & Smelter Workers—signed up for an average 28¢ an hour pay cut. It also agreed to an escalator clause, pegged to the price of zinc concentrate, which has brought additional pay cuts since June.

• **Price Slump**—At Eagle-Picher, the United Cement, Lime & Gypsum Workers (A.F.L.) struck on June 30. Bargaining had deadlocked over company demands for a \$3.08 cut in daily pay. The company argued it couldn't continue operating at former rates, cited a zinc price slump from about 17¢ to 10¢.

Last week, rank-and-filers in the A.F.L. union overrode leaders' advice to hold out against any cut in pay. They voted 102-to-82 to accept the company's terms. About 825 strikers were eligible to vote.

The new agreement cuts the former \$1-an-hour rate for miners to 84¢ an hour. The rate for machine operators drops from \$1.38¢ to \$1.08 an hour.

• **Escalator Clause**—The new Eagle-Picher contract contains an escalator clause that will carry wage rates up again if zinc prices recover. If the price of zinc in East St. Louis, Ill., goes to 11¢, wages will rise 6.43¢ an hour. They will continue to increase at that rate whenever the price of zinc goes up 1¢—or drop 6.43¢ whenever the price of zinc falls 1¢. But wages won't be allowed to go any lower than they now are.

The earlier National Lead contract regulated wages by the price of zinc concentrate, which fluctuates much more. It provides that wages at Baxter Springs, Kan., will go up or down 8¢ per shift (1¢ an hour) for each \$1 change in the price of zinc concentrates. The contract, which cut pay an average \$2.25 per shift, was signed when the zinc-concentrate price was \$79. Last week, it was \$57.



"THAT'S YOUR SHARE," Falk official points out, in explaining employee trust fund

Keep Telling 'Em

Falk Corp. finds parties, regular statements on profit-sharing keep employees awake to their stake in Falk earnings.

Don't let your employees get too complacent about a company welfare program. Keep reminding them what the company puts in—and what each employee personally gets out of it.

• **Advice**—That's one company's advice to employers negotiating insurance and retirement plans for the first time this year. It's based on experience. The Falk Corp. of Milwaukee has found that though there's a lot of excitement when a welfare program is adopted, it soon dies down. Employees forget that there's more to their wages than the figure on their paychecks.

Five years ago, Falk—a manufacturer of giant gears, speed reducers, and marine drives—set up a profit-sharing plan. Now, 1,700 of Falk's 2,000 employees come under it; they hold shares in a trust fund amounting to more than \$2-million. That makes the program a mighty important part of Falk's employee-relations plan.

• **Lack of Interest**—Recently, company officials began to worry about the way the program was going: Something was missing. At the start, the profit-sharing plan was a big and personal matter for every employee. Probably most still felt that way; still, there wasn't much talk about it in the plant. And there were signs, too, that employees were forgetting the basis of the program: Better production and less waste mean better

profits for the company, more money in the trust fund for employees.

Management set out to win back the original lively interest in the profit-sharing program. Here is how they did it:

Personal account books. The company issued trust-fund statements that looked like regular bank books—to give employees more of a personal, proprietary feeling about funds held for them. (The workers can't touch their share of the trust fund until they retire or leave the Falk payroll.) Employees can now watch their share of the trust fund grow from year to year, by having their personal "deposit" marked up each year.

Plan handbooks. It issued hand-sized, attractively illustrated handbooks that explain how the plan works, and give in full the profit-sharing agreement.

Frankness on facts. The 1,700 employees under the program (only those on the payroll three years or longer are eligible) got special briefings from company brass. Harold S. Falk, company head, and his son and assistant, Richard S. Falk, met with employees in groups of 400. In frank, factual talks they laid on the line the latest company estimates for the year ahead—company earnings, profits, and division of profits.

A panel of experts took over from there, to explain how the profit-sharing plan works, using colored cartoon slides to jazz up the solid facts. Some of those who already are drawing retirement pay from the fund, members of the Falk Old Timers' Club, told how they're using their money. Refreshments and entertainment wound up the parties in the company cafeteria.

• **Solid Facts**—Employees came out of the "parties" with some thoughts to mull over:

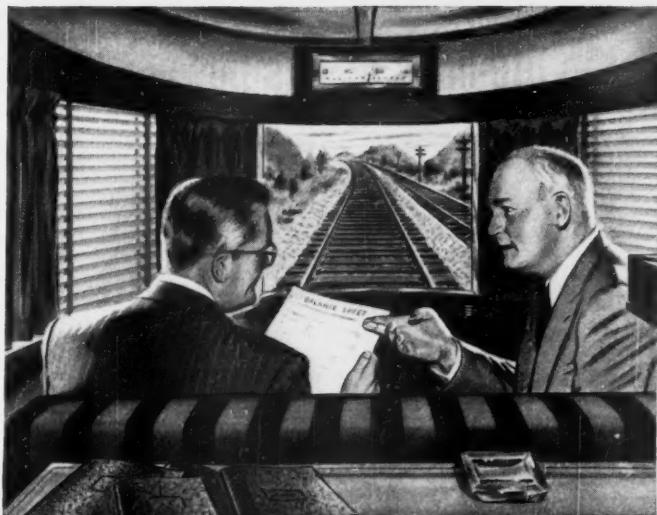
(1) In the first five years of life of the fund, company contributions totaled nearly \$2.5-million of a net operating income of \$7.6-million. That's about 18% of income, before taxes, reserves, or payments to stockholders. The rest was divided: 56% for taxes, 16% for new equipment and reserves, and the rest—about 10%—to stockholders.

(2) Company costs for "the protection and security of Falk people" now add up to about 15¢ per hour for each employee.

(3) The company's contribution to the fund grows as its earnings grow. Falk Corp.'s contributions to the trust fund are: 10% of the first \$500,000 net profits; 15% of the next \$100,000; 20% of additional earnings between \$600,000 and \$1-million; and 25% of everything over \$1-million.

(4) Falk's clincher argument:

"Higher profits, and therefore higher returns to each of us, can come only if we use our best efforts to produce a fair day's work, to prevent all waste, and to give the benefit of our knowledge in cutting costs by the use of better methods."



Here's why you get more for your money with **CONCRETE** construction

OWNERSHIP of anything, whether a handkerchief or a hospital, involves three separate costs. First is original price, which often is mistaken for the actual cost of ownership. Second is maintenance cost. Third is **annual cost**, and this is the real cost yardstick of ownership. It is derived by adding original price and maintenance cost and dividing by years of service rendered.

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So whatever you or your community plan to build, insist on concrete and you'll get more value for your construction dollar.

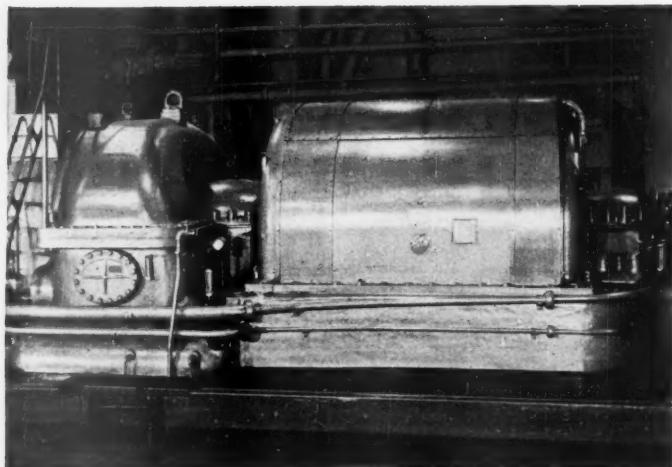


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Reunion in Texas

When Chance Vought moved to Dallas it left U.A.W. behind. Last week the union came back—ready for a scrap.

The United Auto Workers (C.I.O.) will bargain for employees of the Chance Vought Aircraft plant in Dallas—just as it bargained for them up until a year ago in Stratford, Conn.

• **Left Behind**—U.A.W. lost bargaining rights in the Chance Vought Aircraft Division of United Aircraft Corp. when the plant was moved to Dallas last year (BW—Aug. 14 '48, p26). It ran into trouble right away last fall when it tried to resume bargaining with the company. Newly hired Dallas workers weren't union-conscious. And a strong challenger appeared against U.A.W.—the independent International Assn. of Machinists.

• **Election**—But last week the U.A.W. overcame these obstacles. It came out on top in a National Labor Relations Board election at the new plant—former home of North American Aviation. The U.A.W. garnered 2,491 votes (about 63% of the total) among production workers. I.A.M. got 653; 718 employees voted against any union.

• **Bitter Fight**—The election climaxed one of the bitterest jurisdictional fights that the Southwest has ever seen. I.A.M. and U.A.W. spared no words in criticizing each other—and the company.

• **Company Action**—Chance Vought also had its say during the pre-election campaigning. Fred Detweiler, acting general manager, sent a series of letters to all production workers. Detweiler called attention to the election—and the right of workers to accept, or reject, any union.

The company charged that the U.A.W. had obtained illegally a list of company employees. Chance Vought sought, and got, a court order barring use of the list, and requiring the union to return it. When U.A.W. failed to do so, the company filed contempt of court charges.

• **Wage Differential**—The letters and court action raised U.A.W. tempers against Chance Vought. As soon as NLRB returns were released, the union announced plans for an immediate fight for a 28¢ wage hike. The union said the Dallas workers "are getting an average of 28¢ less than they were getting in Connecticut, for the same jobs."

Chance Vought denies that there is any difference between rates paid in Connecticut and those now being paid in Dallas.

U.R.W. Holds Off

Rubber strike unlikely until after union convention next month. Leadership fight keeps union cautious.

The rubber industry and the C.I.O. are deadlocked on wages. Even so, there'll probably be no strike in the industry—for a month or two.

• **Convention Coming**—What's holding up a showdown is the United Rubber Workers' annual convention scheduled for Toronto next month. There's enough dissension in the union to guarantee that this will be about the hottest convention in U.R.W.'s stormy 14-year history. Before it can face a showdown with management, U.R.W. must face a showdown in its own house. The issue: Can the new militant administration keep its seat?

• **New Leaders**—Two months ago, a U.R.W. board majority ousted Leland S. Buckmaster as president (BW—May 28'49,p101), put in H. R. Lloyd instead. Now the Buckmaster forces claim they have enough votes to put him back into office. Lloyd wants to avoid drastic action—like calling a strike—until he is sure he is the boss.

Lloyd believes in aggressive leadership, get-tough bargaining. Buckmaster favors give-and-take bargaining. His foes in U.R.W. have often criticized him for "soft" negotiating.

While U.R.W. is marking time, it is building up a \$1-million strike fund.

• **Union Demands**—U.R.W. demands from management call for: (1) a 25¢-an-hour wage increase; (2) \$100-a-month pension; (3) insurance benefits; and (4) a 36-hour work week.

No matter who wins at Toronto, the union will probably stand pat on those demands—as long as it can. For, whoever wins, union leaders will feel insecure.

House Committee Again Will Investigate U.E.

Hundreds of employers that have contracts with C.I.O.'s United Electrical, Radio & Machine Workers had their eyes on Washington this week. The House Un-American Activities Committee convened to investigate subversive influences in U.E.

The last time the committee made headlines with U.E. material, a former Communist had charged that Julius Einspach—U.E. secretary-treasurer—was the top link between Russia and the American union movement (BW—Dec. 25'48,p68). Since then, two



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Oil Base, Inc., manufacturer of drilling muds and kindred items known to all oil drillers, has only high praise for its Clark Pul-Pac, used to handle its products:

"Our products are mostly packed in 100-lb. paper bags, and a normal shipment consists of 400 bags. Formerly, it took two men two hours to load a truck. Today, with unit loads of 28 bags cross-piled on disposable base-sheets, the Clark Pul-Pac operator loads 20 tons in 20 to 30 minutes. Material is warehoused in one-fourth the time; and stacking the sacks 21 to 30 high—instead of 7 or 8 high has almost tripled storage capacity. Sack breakage, formerly serious, is now negligible. Truly, the Clark Pul-Pac saves us hours, dollars and sacroiliacs."

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For speeding turnover of inventory and capital by faster handling, for multiplying storage capacity at no construction cost, for making deep cuts into production costs and eliminating many concealed losses, the Clark method is management's most effective weapon. To discover how you can employ it to your own financial benefit, talk to a Clark representative. Through him you CONSULT CLARK.

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REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD
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things have happened which add interest to the new investigation:

(1) James Carey, former U.E. president and now a bitter critic of the left-wing leadership of the union, has publicly charged that some employers play ball with the U.E.—despite its Communist tinge—in return for short-run advantages; and

(2) Philip Murray, in the past a defender of U.E. against charges of communism, today is one of its severest critics.

LABOR BRIEFS

Baby-food workers in Clapp's division of American Home Foods have negotiated a 3¢-an-hour wage hike. The A.F.L. pact also provides for (1) pensions, with the company and employees sharing the cost, and (2) a health insurance plan.

C.I.O. steelworkers are challenging John L. Lewis' mine union at Lyon Metal Products in Chicago Heights. The steelworkers are now qualified to use NLRB; but the mine union still isn't, because Lewis and other officers haven't signed T-H non-Communist affidavits.

NLRB has questioned validity of a union's compliance with the Taft-Hartley law for the first time. It wants C.I.O.'s food and tobacco union to prove that Donald Henderson—who quit as president and took an appointive job—isn't still administrative head of the union (BW—Aug. 6 '49, p78).

Wage increases tabulated by Associated Industries of Cleveland (an employers group) show that the average hourly pay hike in 116 plants from Jan. 1 to Aug. 1 was 2.16¢. Before July 1 they ran higher (3.35¢).

Pennsylvania workers can't get unemployment compensation if they're idle because of a labor dispute—no matter who's to blame. That's a Pennsylvania court's reason for refusing Midvale Co. workers compensation for a six-month work stoppage in 1948. The state compensation board had called it a "lock-out."

International Harvester strike of independent International Assn. of Machinists ended in Louisville this week. Union settled without a general pay increase.

The Pictures—Acme—70; Eastern—82; Sovfoto—86; Wide World—26, 31 (bot.), 58, 62, 81; Dick Wolters—22, 23 (bot.).



1. Magnifying Time—a look at the means of slowing fast motion by taking movies at 1,000 to 3,000 pictures a second. Shows typical set-ups and examples of high speed photography. (Free)



2. Kodagraph Papers—The Big New Plus—tells you how you can make lasting copies of opaque and translucent documents and drawings in direct process or blueprint machine—with improved contrast and clarity. (Free)



3. Photomicrography—a comprehensive study of the use of still and motion photography with the microscope. It discusses optics, light sources, filters, exposure, color photomicrography, materials, and processing. (Price \$2)



4. Kodagraph Micro-File Equipment for Business and Industry—the salient facts about the machines, accessory equipment, and film in this new Kodak line, with ideas for industrial applications. (Free)



5. Radiography in Modern Industry—explains the generation of x-rays, theory of their use; gives tables and graphs on film sensitivity; discusses use of screens and diaphragms. Section on tracking down troubles. (Price \$3)



6. Kodak Materials and Accessories for Industrial Radiography—a description of Kodak's different types of X-ray films for different conditions, together with screens, film holders, processing chemicals, and darkroom equipment. (Free)



7. Photographic Plates for Scientific and Technical Use—an authoritative summary of sensitometry and the H&D curve, together with a working guide to the many factors that affect the use of the photographic emulsion as a scientific tool. (Free)



8. Materials for Spectrum Analysis—gives curves of exposure and development; discusses spectral sensitivity, with pages of valuable data on photographic media for use in spectrography from ultraviolet to infrared. (Free)



9. Kodak Linagraph Films and Papers—plots the relative speeds of seven papers and four films used for trace recording in instruments. Gives their photographic and physical properties, also spoolings and sizes. (Free)

A gold mine of information— how photography helps industry

• These are some of the Kodak books which tell how industry can profitably use radiography, photomicrography, spectrography, high speed movies, microfilming, drawing reproduction, and the many other phases of Functional Photography.

Functional Photography advances business and industrial techniques



10. Kodak Recording Materials—a study of their properties and a listing of the kinds available for the many types of recording with galvanometers and cathode ray tubes. Includes valuable data on processing. (Free)



11. Metallography in Color—shows how the study of metals is enhanced by color photomicrography. Discusses selection of illumination quality, color compensation, and exposure. Color illustrations. (Free)



12. Wratten Light Filters—a description of filters and their care—44 pages of spectrophotometric curves—15 pages of tables showing the percentage transmission of Kodak Wratten Filters. An essential for all using scientific photography. (Price \$1)

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INTERNATIONAL OUTLOOK

BUSINESS WEEK

AUGUST 13, 1949



The U. S. won't back a Pacific Union for a while yet.

For one thing, Congress won't swallow the idea on top of our heavy commitments in Europe. And the State Dept. still gives Europe top priority.

For another thing, the State and National Defense Depts. haven't agreed where to draw the line in the Far East. Currently both are trying to figure out how to keep Formosa out of Communist hands. Proposals to buy the island or give it back to Japan are even being kicked around.

The release of the China White Paper was largely a domestic political move (page 15).

It just details this hard lesson: The Chiang Kai-shek government was much too great a liability to carry even in the name of fighting Communism.

If the White Paper wrote off China, it didn't fill the void with any new policy. About all State has decided to do definitely is to replace our Far Eastern diplomatic corps with top-flight career men—the kind that usually get posts in high-priority Europe.

The British think they have an idea how to make order out of chaos—in Southeast Asia, at least.

London has suggested that the U. S. "stabilize" the prices of jute, tin, and rubber. That presumably means the U. S. would buy more of these items.

The British argue this would be a cheap way to help out India, Burma, Malaya, Indonesia, and maybe Siam and Indo-China. At least it would prevent the economic and political climate there from getting any worse.

The idea will be thrashed out at the Anglo-U. S.-Canadian financial talks tentatively set for Sept. 6 in Washington. For the British, of course, it would kill two birds: keep peace in the empire, and help relieve the dollar shortage.

The International Monetary Fund is considering the possibility of restoring drawing rights to Marshall Plan countries.

At the beginning of the Marshall Plan, the Fund banned loans to participating members. ECA was doing the job.

Technically the Fund only makes loans for "a temporary exchange problem." But if a long-range solution to Britain's dollar plight is worked out, the Fund might remove the ban on short-term aid.

Britain then could draw \$330-million in dollars each year for three years. (Britain drew \$300-million from its \$1.3-billion quota before ECA was born.)

France seems to have hit the bottom of the price recession that started last January.

Industrial prices held steady last month; raw materials edged up. Retail indexes continued to drop, but ever so slightly.

The Bourse recorded an average rise of 20% in stock values over the past three weeks.

Most businessmen see these signs as heralding a period of solid prosperity—not renewed inflation.

Reasons for the optimistic outlook:

(1) Annual reports for 1948 show profits up, across the boards. Dividends last year averaged 6%, as against 1% in 1947.

(2) 55% more taxes have been harvested this year than in the com-

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK
AUGUST 13, 1949

parable 1948 period. Finance Minister Petche's budget is neatly balanced.

(3) French industry is still turning out 30% more than prewar, despite vacations.

(4) French exports for the first half of 1949 paid for 83% of French imports. In the first half of 1948, they only paid for 66%.

But here's a sour note: French exports to the U. S. hit a new low in June. France currently is paying for only 6.5% of its buying in the U. S.

French financial circles now are betting the franc won't be devalued if and when the pound is.

Reason: The pound would only go down about 20%. But right now the pound is selling for 18% less than the official rate on the Paris black market.

British textile exports—\$200-million worth—are going abegging in British export warehouses.

At spring export rates, that's about a six-months' supply.

The British home market could gobble them all up easily. But the government still refuses to unbend from its "export-or-die" policy.

Many "frustrated" British exports will find markets in India and Pakistan, thanks to the Commonwealth agreement to close ranks against the dollar crisis (BW-Jul. 9 '49, p99).

But this is one-way trade. All Britain gets for it is a reduction of its war debt (i.e. India's and Pakistan's blocked sterling balances).

Since the war, India's sterling balance has been reduced from \$6-billion to less than \$3-billion. Since the middle of last year Britain has released \$1.5-billion of it.

While India desperately needs sterling imports, Britain can't stand this bleeding much longer.

As long as the government keeps boosting the supply of sterling by releasing sterling balances, there is little incentive for British manufacturers to cut their costs.

U. S. business won't lose much more Indian trade as a result of India's decision to cut dollar imports 25%.

Imports of merchandise are already screened down to the bare essentials.

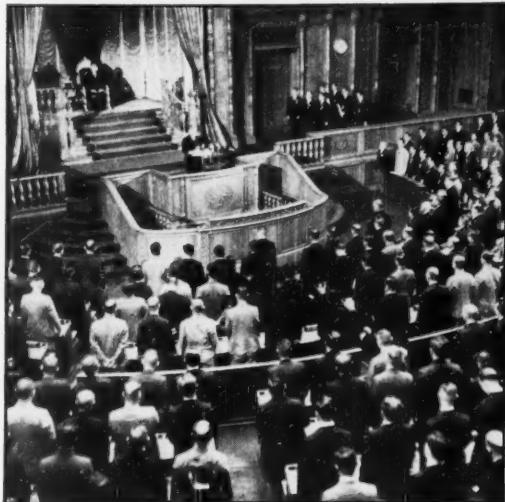
But U. S. and Canadian farmers may be hit to the tune of \$100-million. India hopes to save dollars by shifting as much of its food buying as possible to the sterling area. Talks are already under way with Australia to fill some of the gap.

More South American countries are ready to sign barter deals with Britain.

Last week dollar-starved Brazil signed a one-year pact to buy \$152-million worth of British oil, vehicles, and machinery. The Brazilians are selling the British food and cotton for the most part.

A small deal with Mexico may be forthcoming, too. The Mexicans have some cotton to sell. If they can toss in some food along with it, Britain might supply equipment to expand Mexico's state oil monopoly, Pemex. The Mexicans are sore at the U. S. for turning down a loan to Pemex.

BUSINESS ABROAD



JAPAN'S DIET will take over economic rule, leaving . . .



MACARTHUR and his staff in secondary policing role. This . . .

Shift in Japan Means Tougher Trading

Economic reform program hasn't worked out. You can expect a new flood of cheap-labor goods when U. S. controls end.

TOKYO—U. S. businessmen may soon face the same cutthroat competition with Japan they did before the war. That's one conclusion that emerges as the noble experiment of democratizing Japan nears its end.

By the end of the year, the U. S. will have dropped nearly all internal controls over Japan. General MacArthur will still head a garrison—to keep order and see that waste of U. S. dollar aid is kept at a minimum. But the direction of Japan's internal affairs will fall to Premier Shigeru Yoshida and his conservative government.

• **Backslide**—Yoshida's Democratic Liberal party is committed to restoring the old order. You will remember some of its characteristics:

(1) Severely depressed consumption at home to provide the dirt-cheap labor needed for the lowest possible export prices.

(2) Monopoly control of raw-material production and distribution, in order to control export prices and profits.

(3) Complete suppression of the trade-union movement as the only domestic political force able to thwart these objectives.

For most U. S. business, ruthless redevelopment of Japan's export markets will mean a drastic limitation of their

own Far Eastern market. And that market promises to be very rich when political stability returns and allows industrial expansion.

• **Miracle Makers?**—Communiques from SCAP (Supreme Commander for the Allied Powers), of course, pooh-pooh the idea of a return to the old order. Only last week the chief of the occupation's Deconcentration Review Board told reporters, "There is in Japan today no excessive concentration of economic power, and a healthy free economy is growing. . . ." Gen. MacArthur's headquarters announced at the same time that the board had submitted its final report and would be dissolved immediately.

But many think that to look on the trust-busting job as complete is just whistling in the dark. Japan has never known either a free economy or a democratic government. If, in the space of four short years, the U. S. could have sown the seeds of both and had them take root, it would be nothing short of a miracle.

What the occupation has done primarily, is to impose on Japan the formal mechanisms of a model democracy—a constitution, labor-standards laws, anti-trust legislation, universal suffrage, decentralization of police power, and land

reform. But now that the U. S. is stepping into the background, the mechanisms are being scrapped, one by one.

• **Solid Opposition**—From the start, the old leaders of Japan organized to battle postwar change. To get action, SCAP's government section had to draft every reform bill—and then order the government to put it through the Diet.

SCAP even wrote the constitution. That was after the Democratic Liberal cabinet under Premier Yoshida—the same group that is in power now—took a crack at the job in 1946. SCAP stepped in when it was obvious that Yoshida's henchmen would only rewrite the old Meiji constitution, retaining, in essence, the complete sovereignty of the emperor.

Since then Yoshida's hand has been greatly strengthened (and the U. S.'s weakened) by two developments: (1) the need to get Japan off the U. S. taxpayer's back; and (2) the policy of containing Russia.

• **Change in Outlook**—The pressure on occupation officials to ease the U. S. subsidy to Japan has made it a lot easier for them to swallow the old industrial clique. Those who so successfully industrialized Japan in the early 1930's naturally could do the recovery job fastest now. And there is no denying that the recovery program outlined by MacArthur's economic chief, Joseph Dodge, requires a firm administering hand (BW—Mar. 26 '49, p121). For it will impose

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CLUES

See page 50 of the July 30 issue

on the Japanese people the grimdest sort of austerity.

The drive to contain communism throughout the world has made any anti-Communist group, regardless of its aims, attractive and respectable—especially to high ranking Army and Navy officers.

Thus, it is no surprise to find one of General MacArthur's aides saying in answer to a question whether he saw any danger in the growth of the Yoshida nationalists: "To hell with that kind of talk. I'll take the old zaibatsu any day to the Communists." Military circles believe that America has only two choices in Japan: the Communists or the Democratic Liberals.

Today, the Democratic Liberals are solidly in the driver's seat. They hold 268 out of 466 seats in the Diet. Another 70 members are sympathetic to their social and economic policies. With this overwhelming majority, Yoshida is sure to stay in power until 1953.

• **Living Standards**—The plans for economic reform are already breaking down. If they had been administered carefully over a period of years, Japan might have had a relatively free economy—one that would pour a major portion of its profits into an increasingly better standard of living at home.

Only a bare start, however, was made toward the goal. The nonoperating companies of the 14 zaibatsu families (who controlled 90% of Japan's in-

dustry) capacity and well over 50% of the country's foreign trade) were liquidated.

But these holding companies all had companies under them that dominated a particular line of production. With a few significant exceptions—Japan Iron & Steel, Oji Paper, and Oriental Can—these operating companies still control their fields. If, as it looks now, occupation policy in the future will be only to make recommendations on trust-busting, there's little chance that the Yoshida government will do much to break this control.

• **Laws Mean Little**—SCAP already has rammed an antimonopoly bill through the Diet and caused a fair trade commission to be set up. But if reorganization of the old monopolies isn't carried through, these laws are circumvented. Then again, antitrust legislation is only as effective as the government wants it to be. And chances are the Yoshida government will act only where SCAP directly intervenes.

A trade-association law passed the Diet, too. It was designed to break up the prewar industrial and trade groups that fixed prices and controlled distribution. But it is doubtful whether many Japanese really understand its purpose.

Most of the stock of the zaibatsu companies has been sold. But control of the companies remains, by and large, in the hands of the old directors.

Finally, more than 1,000 executives



Aussies Build New Small Car

The experimental car above has two unusual features: its powerplant, and its price. Under the hood is a two-cylinder, two-cycle engine. (All U. S.-made cars use four cycle power.) And the builder, Wiles Mfg. Co.,

Adelaide, South Australia, estimates the price at under \$900. The car is almost a 100% Australian product. Only imported parts: British electrical system, U. S.-made Timken bearings. Production awaits road tests.

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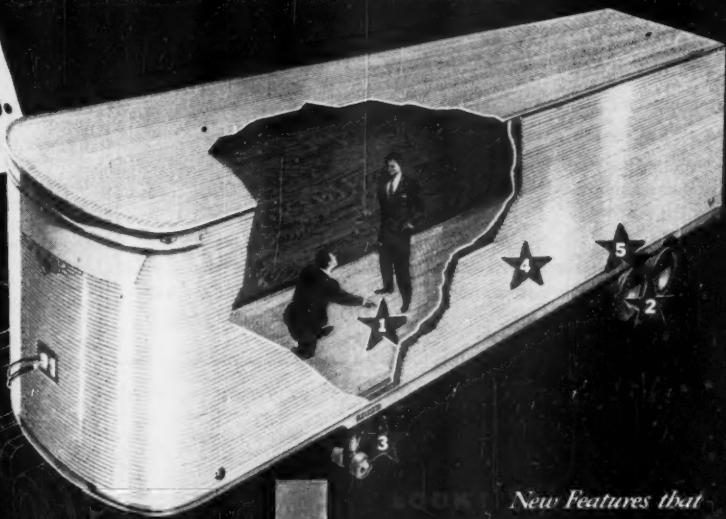
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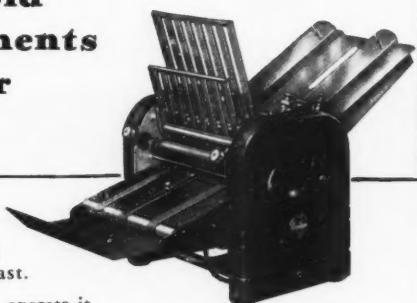
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of the old business order have been purged or barred from their companies. But Yoshida already is pressing for a removal of the bans. His first reinstatement list of 19 includes 12 top executives of the zaibatsu companies. So far MacArthur has stuck to his guns. But Tokyo is betting he will give in within a month.

• **Labor's Hard Lot**—Of the various reforms, the SCAP-created labor laws have proved least effective. Japan's infant trade-union movement has almost no way of functioning; it is more and more falling prey to the Communists.

The Diet is stacked with representatives of the old economic order who have successfully smothered all labor-backed legislation. And Japanese labor has also lost most of its right to strike. MacArthur, exercising his right under the occupation statute, has barred every major strike so far. As the Communist threat grows, he will probably continue to do so.

But some of the labor gripes have a real basis, so impromptu strikes and disorders can be expected to spread. They could end up in a revolt against the government. They could, that is, if Yoshida couldn't draw on occupation troops to keep order.

• **Sure of Support**—Blocking Communism is so much the No. 1 U.S. policy that Yoshida and his party followers are sure occupation authorities are in complete sympathy with their aims. They are confident that the occupation forces will help keep order and bring in enough food to give the country a minimum standard of living.

Mexican Farmhands Can Again Work Here

MEXICO CITY—Last October the Mexican government banned further migration of Mexican workers to the U.S. The "braceros," as the Mexicans call them, were being discriminated against—especially by the Texans. The Mexicans thought their workers were being housed miserably and paid well below U.S. standards.

• **New Pact**—Last week the storm finally blew over. A new labor pact was signed here between U.S. embassy officials and the Mexican foreign office. Terms of the pact provide that hiring shall be done at three inland cities instead of along the border. This way the Mexicans can supervise each contract individually. Mexico reserves the right to keep workers out of blacklisted areas where U.S. farmers don't provide them a better deal.

To the U.S., the new pact means several hundred thousand workers to help out in cotton and sugar-beet fields. To Mexico, the braceros mean dollars—

\$29-million in 1947. Last year, before President Alemán invoked the ban, they had brought \$21-million back home.

• **Farmer's View**—There is no doubt that U.S. farmers—who were very anxious for the U.S. government to come to terms—will welcome the turn of events, too. Their spokesman was the late Gov. Beauford Jester of Texas.

Brazil Refinery

Government to build the country's first big oil refinery. Purpose: to ease dependence on dollar oil.

RIO DE JANEIRO—The Brazilian government signed contracts last week for the country's first big oil refinery. It will be state-owned.

Hydrocarbon Research, Inc., New York, will do the engineering and installation of the plant through its South American subsidiary. Two French companies will provide the materials and equipment. Total cost will be about \$60-million.

• **Where**—Where to put the refinery is still a question. The plant will use imported crude—mostly from Venezuela—at least until Brazil finds some oil of its own. Observers added that fact to strategic considerations and came up with the belief that the natural site would be Belém, at the mouth of the Amazon. But Belém is 2,500-mi. by sea from Rio and São Paulo, Brazil's industrial centers. And overland transport is practically impossible.

• **Purpose**—The refinery is the first big step in Brazil's drive to ease its dependence on dollar oil. Last year Brazil spent \$300,000 a day of its very scarce dollars for petroleum products. Refining at home will cut this bill drastically. But it's a long-term step; it will probably be five years before the refinery is in production.

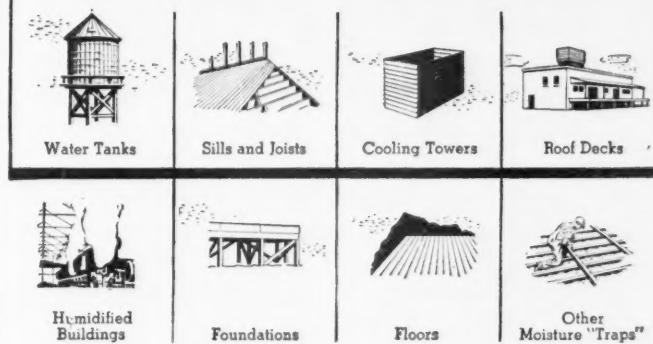
• **Other Projects**—Two private Brazilian companies have received O.K.'s from the government to build refineries, but both projects have bogged down. One company wants to build a 20,000-bbl.-a-day refinery with Czechoslovakian equipment bought with blocked Brazilian funds. So far the Czechs haven't agreed. The other company came a cropper over the dollar shortage.

The government is building one refinery to take up the output of oil wells near Bahia—the only oil so far proven in Brazil. But this plant is small; capacity is only 5,000 bbl. a day.

• **Oil Wanted**—Meanwhile, the search for oil goes on in virtually every Brazilian state. For the most part, U.S. geological firms are doing the looking—with discouraging results so far.

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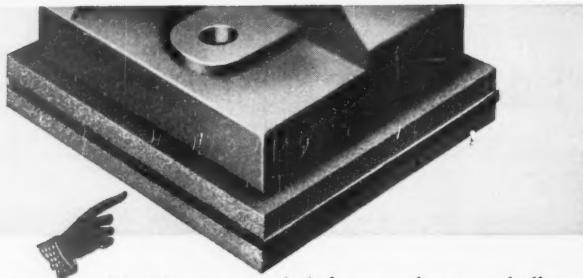
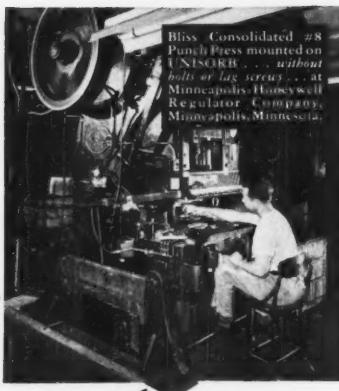
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Canada Reports Rise In Capital Spending

OTTAWA—Unlike the U.S. situation, Canada's capital spending boom is still on the upgrade.

The midyear report of the Dominion Trade & Commerce Dept. estimates that Canadian businessmen's capital spending will total \$1.65-billion this year. That's \$65-million more than estimates at the beginning of 1949 (BW—Apr. 2'49, p.105). In 1948, expenditures totalled about \$1.6-billion.

Including noncommercial spending (private construction of houses and institutions), Canada's total investment this year should reach \$3.4-billion. That's up \$400-million from last year.

The biggest reason for revising estimates upward is the greater availability of materials and equipment. The experts in Ottawa think that 1949 will see Canada's boom reach its peak.

The report doesn't break down estimates in detail. It doesn't show the expected effects of the Alberta oil boom and attendant pipeline plans. It does show that estimates of capital spending



Made in Russia

This refrigerator, the Soviet Union's latest model, shows that Russian product engineering lags several years behind the U.S. Note (1) the mechanism mounted at the top of the cabinet, a now outdated method; (2) the thick, heavy doors—undoubtedly the result of poor insulation material—as compared to the 3-in. doors on the latest U.S. models; (3) the small storage space in proportion to the giant 6-ft.-odd cabinet. The Soviets say that the refrigerator is made at the Ordzhonikidze plant in Moscow, but won't tell production figures or prices.

in primary industries and the construction industry together have increased 11% over January forecasts. In manufacturing the increase is 2%; commercial, merchandising, and service businesses together are up 4%; utilities are unchanged.

The small increase in manufacturing is spread over a wide area. Transportation equipment is up 21%. This reflects among other things, General Motor's decision to build a diesel-locomotive plant at London, Ont. (BW—Aug. 6 '49, p86). Nonferrous-metal estimates are up 50%; printing and publishing, up 17%; but tobacco products are down 55%.

Geographically, the biggest boom in capital outlays is scheduled for British Columbia, where estimates are up 7% since January. Quebec is up 5%, the prairie provinces and Ontario, up 3%; and the maritimes down 11%.

BUSINESS ABROAD BRIEFS

U.S. Steel Corp. is looking over a new find of manganese in the Belgian Congo. ECA got the tip; couldn't get the money to develop the project. So it asked U.S. Steel if it wanted to try.

Belgium is going to expand its marketing efforts beyond the East Coast. It will open offices in Dallas, Kansas City, and Chicago.

Socony-Vacuum's \$34-million refinery at Altoona, near Melbourne, Australia, is now complete. Its yearly output will include 4-million gal. of fuel oil, 2-million gal. of gasoline, 4-million gal. of lubricants.

Potash: ECA has earmarked \$5-million in dollars, the French \$120-million in francs, to modernize Mines Denmanes de Potasses d'Alsace, the principal European source of potash outside the Soviet bloc.

An International Congress on Plastics will be held in Turin, Sept. 19 to 22. Object: to promote worldwide standardization of plastics materials.

International General Electric has licensed Radio & Electricals Mfg. Co. Ltd., of Bangalore, India, to assemble G.E. radio receivers. Over a five-year period, the Indian company will develop facilities to make all components except tubes.

Rumanian-Russian corporations, formed last month, will control the production of coal, metals, and building materials in Rumania. The U.S.S.R. holds a 50% interest in each.

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The C.I.O. Brand of Economic Reasoning

The C.I.O. recently released a 52-page pamphlet entitled "National Economic Policy for 1949." This is the economic bedrock for the unions' contention that there should be another round of wage increases this year.

The C.I.O. 1949 wage policy is simply this: Corporations as a whole can afford substantial wage increases.

That line of reasoning—ability to pay—has been fully developed for the biggest labor-union holding company by Robert R. Nathan Associates, Inc. This is the same Robert Nathan who developed the economic thesis used as justification for the first postwar round of wage increases in 1946. At that time, Nathan argued strongly that workers needed higher wages because of the increased cost of living. Mr. Nathan's argument was persuasive, at least to top Administration officials in Washington.

It is interesting to see that Nathan is now able to develop economic thinking which justifies higher wages for workers at a time when prices are declining and there has been a drop in the cost of living.

Even though prices have started to move downward, he condemns industry for not cutting prices to the bone and into the bone. He maintains that many industries have shown more willingness to sacrifice business volume than prices. Reluctance to cut prices is bad for two reasons, according to Nathan: (1) The lower-income families don't have enough money to buy at the high prices; (2) the higher-income families note the creeping price declines and build up their savings, while waiting for still lower prices.

Nathan then proceeds from his dissertation on prices to the conclusion that higher wages should be paid. In the most abrupt fashion, and starting from the shaky premise that business can afford to cut prices, he decides

it can also afford to raise wages with no effect on prices.

Nathan did not analyze the current economic situation and stop there, either. He took care of the whole future of our national economy by laying out three positive programs—one for business, one for labor, and one for government.

All members of the business community should know what Nathan, speaking for the C.I.O., conceives as the positive program for business. It calls for: (1) wage increases for workers in all industries and companies, except those severely depressed; (2) price cuts on many fronts, with lower profit margins; (3) increased efficiency through new processes and new techniques; (4) support for governmental economic programs.

The general public might read over that list hastily and agree that every point is good and should be adopted. That is the reason it is dangerous for such a formidable document as the Nathan report to be issued and stand undisputed. Every company in every industry that has dealings with the C.I.O. should feel responsible for answering that report and making its answers clear and intelligible to the public. We believe the average citizen would listen with interest to an explanation of why the C.I.O. program is not all sugar and spice.

As a starter, he would like to be told—and can honestly be told—that not only the C.I.O. but also management would be delighted to see the day when employees can be paid more money to buy more goods at lower prices. It can then be pointed out that the owners and managers of business have made great strides in that direction over a long period of history. Finally, it should be stated just as pointedly that the path to higher wages is along the route of greater production—increased output per worker and per machine—and that there are no safe shortcuts.

The Key to a Dynamic Economy

In a foreword to "Dynamic Equipment Policy," a book published this week (McGraw-Hill, \$3.75), there is this warning: "This is not a work for the casual reader."

We agree. Even though George Terborgh writes as interestingly here as he did in "The Bogey of Economic Maturity," the discussion definitely is several cuts above light fiction.

But it is, nevertheless, engrossing reading for anyone who cares about industry's equipment and re-equipment policy. That circle is not too limited, either. Besides business executives who have to face up to the problem, anyone who wants the U.S. to have a dynamic economy ought to read it.

Terborgh makes that point quite well. He says: "It is well that the individual company can increase its profits and strengthen its competitive position by good

mechanization. If this incentive were lacking there would be little hope of progress in the matter. But we must remember that the major beneficiary from an improvement in the general level of practice will not be industry itself; it will be its customers. Most of the gains will be passed along in increased output and lower prices. The paramount interest, therefore, is the interest of consumers: that is to say, of all of us. We are dealing with a problem primarily of national concern."

Terborgh's analysis of equipment-replacement problems does not show that everything is sweet and lovely. On the contrary, he says equipment policy is the most backward area of industrial management today. He says a sound replacement policy does not arise spontaneously or automatically.

His delineation of the equipment problem, therefore, meets an important management need.



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The Studebaker truck cab is extra roomy and extra cool—with foot-operated floor ventilation—Adjusto-Air seat cushion. Visibility is enormous. Cab steps are weather-protected, enclosed inside the doors.

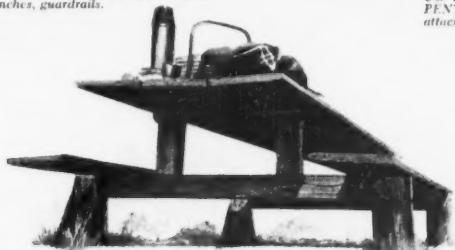
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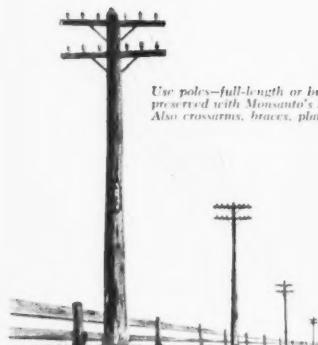
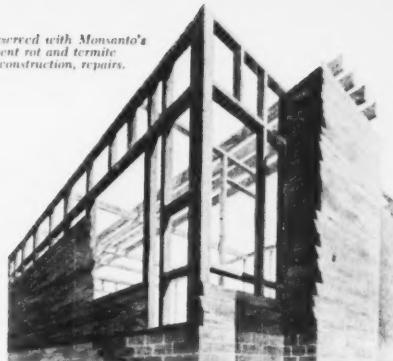
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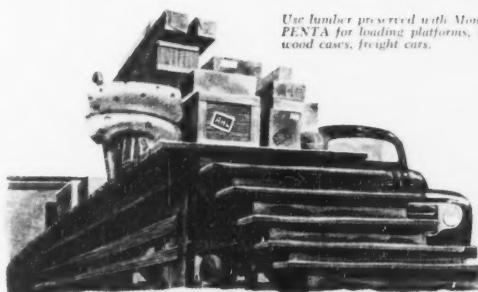
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Use poles—full-length or butt treated—preserved with Monsanto's PENTA. Also crossarms, braces, platforms.



Use lumber preserved with Monsanto's PENTA for loading platforms, underpinning, wood cases, freight cars.



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